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To develop and test preretirement educational materials and methods for hourly rated workers and to determine the immediate effects of participation by these workers and their wives in a group discussion preretirement education program, a study was undertaken with 88 automobile workers (aged 60 or more) and 54 wives as volunteers. Six types of materials were used for group study: essays, case histories, a retirement checklist, short films, still pictures, and a discussion leader's manual. After 17 measures of change among experimental and control workers, the discussion program did not seem to have changed workers' attitudes toward life in general, retirement, health, or income, but it encouraged participants to take preparatory retirement steps. Wives in the experimental group completed the program with significantly more favorable scores on health self-appraisal and retirement income, while wives in the control group had a higher score on present income attitudes. Married participants and those with incomes over $7000 achieved higher mean change scores on indexes measuring self satisfaction and retirement attitudes. (Appendixes include tables and 17 indexes. References are included.) (jf)

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FINAL REPORT

Project No. 1422
Contract No. OEE2-10-047

PRERETIREMENT EDUCATION FOR HOURLY-RATED EMPLOYEES

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Final Report

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PRERETIREMENT EDUCATION FOR HOURLY-RATED WORKERS

Woodrow W. Hunter
University of Michigan
Ann Arbor, Michigan

October, 1968

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I. Summary of the Study

In the short span of twenty years retired people have become a major class in American society, to which cohorts are added by the thousands each year and at increasingly younger ages. Some observers view the new trend of retirement as a waste of human productivity and the signal for poor health, frustration, and dissatisfaction among older people. Others see retirement as a time of opportunity which has been made possible by technological development. Whatever their view of retirement most observers agree that older adults, like many others in our society, are often inadequately prepared to share in the benefits of a society which has come to depend more and more on machine power and less and less on manpower. Hence an imperative of these times is the preparation of older persons to make wholesome, creative use of their leisure time. The argument continues that since older Americans apparently lack the attitudes and skills to enjoy their free time they should be provided the opportunity to learn them if they so desire, and that educational institutions have the primary responsibility for providing learning experiences which will enhance the capacity of the elderly to meet the challenge of an emerging age of leisure.

Still other tasks of everyday living face the older person in retirement. Most of them must learn how to live on less income despite almost inevitable annual increments in the cost of living. Retirement disrupts long-standing relationships with some people and increases considerably social contacts with others, including the spouse. The need to understand one's children and their methods of realizing goals in life is required of all people who live into the later years. Routines which have become fixed after thirty years of working at the same job must be changed. Declines in strength and energy reserve must be acknowledged. Decisions must usually be made about a place to live more than once during the later years. New facts must be learned about such matters as Social Security and Medicare, matters which become very complicated and difficult to understand sometimes. New ways of expressing oneself and of achieving a sense of identity with significant people and things must be sought. New patterns of activity must sometimes be acquired which take into account decreasing physical mobility. Other changes in vision and hearing confront the aging person. Cosmetic changes must inevitably be reckoned with after middle age. Counter measures must be taken to maintain the capacity to perform the various mental tasks which are required if the individual is to function in society. Often for older women, widowhood creates new tasks including the need to take responsibility for financial matters, to realign social relationships and to make different living arrangements.

In recognition of these important tasks of everyday living which arise as people retire and grow older, social gerontologists and educators are beginning to develop so-called preretirement education programs. One pattern of these programs is that of bringing people together in group meetings, of offering a number of lectures on different topics and the opportunity to ask questions and participate in group discussion. The more usual pattern, especially among programs sponsored by industry, is that of counseling or information-giving on an individual basis. The most recent emphasis in the field is that of providing preretirement education services to hourly-rated workers in contrast with earlier efforts to offer programs to salaried personnel.

Despite this new emphasis, preretirement education for hourly-rated workers is, as yet, an untested educational program. A review of available literature indicated that reported benefits of participation in preretirement education programs were based for the most part on subjective kinds of information. Moreover, each of the major programs depended on reading and visual materials which had not been determined to be commensurate with the interests, understanding and reading comprehension of the groups for which they were intended.

Purposes and Plan of the Study

Thus the two major purposes of the present study were to develop and test preretirement education materials and methods for hourly-rated workers and to determine the immediate effects of participation of hourly-rated workers and their wives in a group discussion preretirement education program.

To accomplish the first of these goals six types of materials were prepared: a series of eleven essays, each one dealing with a different topic such as health in the later years; a handbook of case histories which presents in short story form the feelings and reactions of retired people; a retirement readiness checklist to help the individual assess his readiness for retirement; a series of seven, three to four minute 16 mm. sound films and a series of 20 still pictures, both of which were designed along thematic apperception test lines; and a discussion leader's manual which deals primarily with program methods.

Following the testing of these materials, it was intended that they should be used in training preretirement education leaders and made available to the maximum number of interested groups.

The immediate effects of participation in the preretirement education program were studies by testing the null hypothesis that there were no significant differences in mean scores and in mean change scores on measures of morale, life satisfaction, attitudes toward health, income and retirement, planning for retirement and preparation for retirement of four groups of hourly-rated workers and their wives following the participation of two of them in a group discussion preretirement education program.

A fully developed theoretical framework upon which to base the present study does not exist. Nevertheless, an attempt was made to take into account existing empirical evidence on various aspects of retirement, and to utilize available social role and group dynamics concepts in the formulation of research and program methods.

Selection of Subjects

Subjects for the study were hourly-rated male workers, 60 years of age and older who were employed full-time in automobile assembly plants located in the Detroit metropolitan area. In addition, all subjects lived in Detroit or its suburbs, were members of a United Auto Workers local union, and eligible to receive benefits from similar company-U.A.W. negotiated pensions.

The wives of experimental workers who were invited to participate with their husbands in the preretirement education program and the wives of control workers who were willing to be interviewed in their homes comprised the two study panels of wives.

This voluntary participation of workers and wives in the research program undoubtedly resulted in a self-selection of subjects, but it was presumed study findings would be useful because it is unlikely that future preretirement education will be offered on anything but a voluntary basis. Not only was it necessary to use volunteers in the study; only those volunteers who did not intend to retire within a four month period could be accepted.

Initially, the plan was to gain access to subjects through one or more of the automobile companies which possess many kinds of information about employees such as age, sex, marital status, and income which are useful for sampling purposes, but none of the automobile companies agreed to release data or help contact older workers. The United Automobile Workers International Union and its many local unions, each one usually representing a different automobile plant and its hourly-rated workers, were the only other organizations having access to large numbers of automobile workers in the Detroit area. Three major divisions of the United Automobile Workers International Union agreed to assist by making contact with their local unions and encouraging them to cooperate in the research project.

Three from a group of eleven local unions were selected as the most appropriate sources of subjects, two as sources of control subjects and one as a source of experimental subjects, because of their size, the occupational composition of their workforce, their employment history and their distance from each other.

Despite their willingness to cooperate local unions knew little more about their members than their name, address and job assignment in the plant; thus it was necessary to call a mass meeting of older workers and their wives in order to ask them to participate either as experimental or control subjects. The announced purposes of the mass meetings which were called by union leaders were to give members the opportunity to discuss provisions of the union-company negotiated pension program and to hear a speaker from The University of Michigan who would discuss participation in a preparation for retirement program.

Nearly 600 older workers attended the three mass meetings in local union halls and 108 of them volunteered to participate in the research program, 48 as experimental and 60 as control subjects. In addition 75 of the wives of the workers said they wished to take part in the project. Thus the study was initiated with 183 subjects. Forty-one of the initial group were lost to the study for one reason or another, leaving 142 subjects, 88 workers and 54 wives as subjects for the present analysis.

Comparability of Study Groups

Because it was not feasible to determine arbitrarily the composition of experimental and control groups, except on the basis of such variables as minimum age, sex, residence, employment status, range of occupations, pay rates, membership in a similar pension system and affiliation with an automobile union, many kinds of data were collected from all subjects during an initial interview as a basis for comparing experimental and control subjects before their participation in the study. Specifically, experimental and control subjects were compared on the basis of age, marital status, race, religion, birthplace, education, residential status, occupation, income, health, social participation status, time to expected date of retirement, and reason for retiring. Altogether subjects were compared on the basis of 32 variables. Experimental and control subjects were comparable on all except five of the 32 variables, as follows:

1. Experimental and control workers differed significantly on the basis of marital status, number of school grades completed and amount of income.

2. Experimental and control wives differed significantly only in two respects, i.e., race and worry over money matters.

These results suggested the need to analyze program effects among subgroups of the study populations, especially subgroups based on marital status, education, race and income.

Methods of the Study

Despite a steady growth in preretirement education programs there has been only minimal effort to define objectives and measure effectiveness of the program. Thus, as indicated earlier, the major purpose of the present study was to compare the attitudes and behavior of four panels of automobile workers and their wives, two of which had participated in a preretirement education program.

Two principal null hypotheses were established as a basis for making the comparisons between experimental and control subjects comprising the study groups of workers, of wives, and of subgroups of workers based on race, birthplace, marital status, education, occupation and income:

1. that the panels of older workers, wives, and subgroups of workers, who participated in the preretirement education programs did not make any different mean scores on a number of measures of program effects than similar groups of workers and wives who had not been exposed to the preretirement education program; and

2. that there were no differences between experimental and control subjects comprising the study groups of workers, wives and subgroups of workers in mean change scores on the various measures of program effect.

The position was taken that mean change scores, since they take into account "before" and "after" responses of subjects, were a much more sensitive measure of the effects of participation in a preretirement education program than mean scores on the posttest.

Various statistical tests were used to make the comparisons including a chi-square test when qualitative data such as race or marital status were involved and a t-test when data were distributed on a continuum such as age or years of schooling. Large or small sample tests were used to test differences between mean scores and mean change scores depending on sizes of samples being compared. When no statistically significant differences were revealed the groups being compared were considered to be homogeneous in terms of the particular measure under consideration. Observed differences were considered statistically significant when the probability of their occurrence by chance was .05 or less.

Measures of Program Effect

Because it is generally agreed among students of aging that much more conceptual analysis and work needs to be done before solutions will be found to some rather difficult measurement problems in gerontological research, the decision was made to borrow two types of measures from the Cornell study of occupational retirement (Streib, Thompson and Suchman, 1958; Thompson, 1958): 1) a general type satisfaction with life or morale index, and 2) measures of specific kinds of attitudes and behavior such as attitude toward health, income, and retirement. In addition Bernard Kutner's study of 500 older people (Kutner, 1956) and Ernest Burgess' study of preretirement education (Burgess, 1960) supplied a morale index and items of a preparation for retirement inventory respectively. The 17 indexes which were used from these three sources grouped themselves into seven measurement categories: 1) general attitudes toward life, 2) self-concept of age, 3) attitudes toward retirement, 4) attitudes toward health, 5) attitudes toward income, 6) attitudes toward job, and 7) preparation for retirement.

The Attitudes of Subjects Before Participation in the Study

Following a comparison of such basic characteristics as age, education, and birthplace a detailed comparison was made of the attitudes and behavior of experimental and control subjects before they participated in the study. How satisfied were they with life in general? Did they look forward to retirement? What kind of a health rating did they give themselves? How well prepared were they for retirement? Answers to questions of these kinds are important not only as a basis for anticipating the kinds of self-selection of participants which are likely to occur in future preretirement education programs, but also as a baseline from which to assess results of the present research.

In sum, the comparison of the two panels of workers and the two panels of wives indicated that the groups were composed primarily of men and women who had high morale, who felt in good spirits most of the time, and who were satisfied with the way life had treated them. Moreover, most subjects in the four groups gave themselves a good health rating; most of them were not concerned about making ends meet before or after retirement; most of them looked forward to retirement; and very few of them anticipated any problem adjusting to a retired way of life. The two panels of wives felt comfortable about their husbands' retirement. As a matter of fact, a majority of the wives expected their husbands to be as happy or happier after retirement. These results suggest the hypothesis that automobile workers and their wives who volunteer to participate in a preretirement education program are most likely to be those older people who have high morale, who anticipate retirement and expect to make a satisfactory adjustment to it. They also underscore the fact that large gains in measures of life satisfaction and of various attitudes toward retirement were therefore not to be expected.

Effects of the Program on the Workers

Statistical tests of the differences in the postprogram mean scores showed that experimental and control workers were significantly different on five of the 17 measures. These differences, however, favored the experimental workers in only two of the five tests, namely on the two preparation for retirement indexes.

The results of the tests of the mean change scores were similar, but less conclusively in favor of experimental workers and their scores on the two preparation for retirement indexes. It was concluded that participation of the workers in the preretirement education program did not significantly change their attitudes toward life in general, retirement, health or income but that it did have an effect in the desired direction on the number and kinds of preparatory steps for retirement which had been undertaken during the three to four months of the study.

These results are not so surprising when it is recalled that workers in the present study scored high before taking part in the study on all of the life satisfaction, attitudinal and preparation for retirement indexes. Moreover, these results are consistent with the results of previous preretirement education research where it has been shown that attitudinal change was much more difficult to achieve than change in information acquired and extent of preparation for retirement (Burgess, 1965; Mack, 1958; Hunter, 1957).

Effects of the Program on the Wives

The analysis of mean scores of the wives on the seventeen indexes yielded results similar to the results achieved by the workers. It appeared on the basis of the comparisons of mean change scores, however, that the program was effective in improving the experimental wives' appraisal of their health and their attitude toward retirement income.

It was presumed that participation in the preretirement education program would change the attitudes of wives toward their husbands' retirement. To test the null hypothesis that there were no differences in attitudes toward the husbands' retirement between the two groups of wives, one of which had participated in a preretirement education program, responses were analyzed to such questions as: "Do you look forward to the time when your husband will stop working and retire or in general do you dislike the idea of his retiring (preferred response - look forward to it)?" and "Do you think your husband will be happier, the same or less happy after he retires (preferred response - same or happier)?" Altogether eleven questions were asked.

The results of comparing the proportions of experimental wives who gave the preferred response with the proportions of control wives who gave the preferred response before and after the program did not make it possible to reject the null hypothesis in regard to any of the eleven questions. One explanation for the failure of the program to change the attitudes of the wives toward their husbands' retirement was that prior to participation in the program a large proportion of experimental and control wives looked forward to their husbands' retirement, thought the husbands were very well prepared, preferred to have their husbands stop working, liked the idea of having their husbands at home all day instead of at work, and expected things would go well in general after retirement. Here as in the analyses of the other measures there was more room for subjects to decrease rather than to increase their scores on the posttest.

Effects of the Program on the Subgroups

The differences between mean scores and mean change scores on the seventeen indexes were analyzed to determine whether the program had different effects on white versus negro subjects, subjects born in an English speaking country versus subjects born in a non-English speaking country, married subjects versus subjects who were not married, subjects who completed more than eight grades in school versus subjects who completed less than eight grades, skilled versus unskilled workers, and subjects with more versus subjects with less income.

The analysis of mean change scores resulted in eleven differences which were significant at the .05 or greater level of confidence, all but three of which were observed in the subgroups based on marital status and income, as follows:

1. Married subjects who took part in the program achieved significantly larger mean change scores on indexes which measured life satisfaction, self-concept of age, attitude toward present income, and attitude toward job than subjects who were not married, and

2. "High" income subjects who participated in the program achieved significantly higher mean change scores on indexes which measured anticipated adjustment to retirement, retirement planning propensity, plans made for retirement, and morale than "low" or "medium" income subjects.

Reactions of the Experimental Subjects to the Program

Upon completion of the experimental programs subjects were asked what they liked or disliked about the programs, whether the program helped them prepare for retirement, how useful the reading and visual materials had been, and in general, whether they thought other automobile workers and wives should attend similar programs.

The one thing which experimental subjects liked most about the program was the opportunity to acquire information and ideas for use in planning and preparing for retirement. It is unfortunate that the present study did not include a measure of information obtained while participating in the program. Workers and the wives also appreciated the opportunity to exchange views, listen to others, and learn what others were thinking and doing about retirement.

Workers and wives agreed on the four most useful topics presented in the program: physical health; financial planning; family, friends and living arrangements; and legal affairs. The leisure time topic was chosen least by workers and wives.

Sizeable proportions of the subjects thought that more time should have been spent on one or more of the topics. With the exception of only one worker, subjects thought it was a good idea for husbands and wives to attend the meetings and prepare together for retirement.

Almost all of the subjects believed they were better prepared for retirement after participating in the program and they recommended the program to other automobile workers and wives.

Other Outcomes of the Study

The present research served as a springboard for two additional research efforts, a cross-national study of preretirement education in Great Britain and the United States (Hunter, 1965) and a three-year longitudinal study which assessed the effects of participation in a preretirement education program during the first two to three years after retirement (Hunter, 1969).

Training has been offered using materials and methods developed in the present research project to a total of 165 discussion leaders in the New England, north central, southeast and northwest regions of the United States.

Different kinds of services have been offered including consultation, the development of pilot programs, dissemination of information and materials, assistance in the development of research and training activities at other universities and the conduct of programs for older people.

Finally, the present research project has generated the publication of a number of articles and papers on preretirement education, a series of films and still pictures for use in discussion settings, and a book of essays and short stories for participants in a preretirement education program.

Limitations of the Study and Implications

The most obvious limitation of the study is that it applies only to a particular group of automobile workers living and working in a large midwestern metropolitan community. Thus, there is the need to repeat the study with other groups of automobile workers, with other occupational groups and with workers living in other regions of the country.

Subjects who volunteered for the research are likely to be different from the automobile workers who refused to participate. In future studies of preretirement education, it is suggested that as much could be learned from a study of those who refuse as those who accept the invitation to take part in a program.

Future research efforts should make further effort to measure kinds and amounts of information acquired by participants and their skill in solving problems of everyday living which are relevant to the retirement years. In the long-run, measures of practical skills of these kinds may be much more satisfactory in the study of preretirement education with manual workers than the measures of life satisfaction, morale and attitudes.

On the basis of the present study, it was not possible to separate out the relative value of the group discussion as compared to the lecture method. What could have been done in the present research, but was not done, is to have added some programs using the lecture method predominantly.

Participants, workers and wives, reacted positively to the opportunity to participate in a preretirement education program, and many of them wished the program could continue. Reactions of this kind suggest the possibility of studying the effect of periodic follow-up sessions after retirement in which new information would be supplied, reports of successful adaptations made to the group, and an *esprit de corps* and mutual helpfulness encouraged among the members. Also because retired people have the time, they could be encouraged to use their community as a laboratory for learning about housing for the aging, health services, activity programs and so forth. Research on a follow-up program is urgently needed as a basis for developing social clubs, library groups, church groups, and activity centers as settings in which older people come together to solve the multiplicity of problems of everyday living.

II. Statement of the Problem

Retirement is a by-product of technological advances which gives every evidence of becoming an established fact of American life. In spite of major efforts to make possible the employment of workers for as long as they are physically able and want to engage in gainful work, the trend for the past several decades has been a steady decrease in the proportion of older workers in the labor force. With the inevitable march toward even greater technological achievement, there appears little likelihood that this trend will be reversed. To the contrary, there is good evidence that the age of normal retirement is being continually revised downward, that early retirement is becoming increasingly attractive to older workers, and that pressures are mounting to improve pension arrangements through collective bargaining in order to encourage workers to retire at an earlier age and make jobs available to younger workers. Leaders in labor and industry presume, and there is some scientific evidence to support their presumption, that having enough to live on during retirement is central to a decision to retire early.

The Social Aspects of Retirement

One fairly obvious outcome of the trend toward earlier retirement is that older people have a vast increase in uncommitted time. According to some observers this is a highly desirable result of technological advancement, and for the first time masses of people rather than a select few have the opportunity to realize a fullness of living unparalleled in human history. Many observers are convinced, however, that older adults are often inadequately prepared to share in the benefits of a society which has come to depend more and more on machine power and less and less on manpower. Hence an imperative of these times is the preparation of older persons to make wholesome, creative use of their leisure time. The argument continues that since older Americans apparently lack the attitudes and the skills to enjoy their free time, they should be encouraged to learn them, and that educational institutions have an urgent responsibility for providing learning experiences which will enhance the capacity of older people to meet the challenge of an emerging age of leisure.

Moreover, the transition from a worker with a potentially expanding income to a consumer with a fixed and frequently a reduced income represents a period of critical adjustment for many people (Corson and McConnell, 1956). Whether or not the individual copes with the situation depends on many factors, not the least of which are the extent to which he is fully informed about his financial situation and the extent to which he possesses skills for managing his retirement income effectively.

The two factors of an abundance of leisure and reduced income are further complicated when retirement brings with it a loss of status and the position of a second-rate citizen of whom very little is expected (Friedman and Havighurst, 1954). There is good evidence that an increasing number of older people are rejecting any suggestion of limited usefulness following retirement. Indeed, one of the most important developments during the past decade has been the tendency of older people to band together in senior citizen organizations for purposes of reinforcing their demands for an acceptable way of life during the later years. The social implications of the trend are clear. American society has the opportunity to enter into a working partnership with older people for purposes of developing mutually acceptable retirement roles, or it can leave older people to create retirement roles by themselves and without reference to what the rest of society thinks about them. There are those who contend that education for retirement properly conceived and executed can become an effective vehicle for vitalizing this partnership. To be sure, the task confronting educational institutions as they help the aging change old and learn new roles for the retirement years is not an easy one. Only recently has there been any realistic view of the potential of older people to learn and to change; and, until recently, guidelines for education for retirement have been lacking altogether.

Still other outcomes of the retirement process are well documented. Established patterns of daily living are sometimes disrupted (Donahue, Hunter, Coons, and Maurice, 1958). Opportunities for satisfying social relationships may be foreshortened. Long-standing family relationships undergo change; and, with increasing age, there may be a decline in health and energy reserve (Collins, 1955).

The problems of retirement are most often thought of in terms of the older man, when, as a matter of fact, the woman as she grows older faces the necessity to make major adjustments, such as when her children leave home and she like her husband must relinquish her major adult role, when the husband retires and is at home all day long instead of at work, and when she is confronted with the necessity of reorganizing long-standing habits of daily activity. Widowhood creates other situations including the need to take responsibility for financial affairs, to realign social relationships and to make different living arrangements.

Education for Retirement - Origins and Development

In recognition of the difficulties which arise as people retire from gainful employment, social gerontologists and educators are beginning to recognize that continued learning is a necessity if adults are to possess the information and skills required to make acceptable adaptation to the changes which occur during the middle and later years of life (Donahue, 1955) and a few of them have developed so-called preretirement education courses or preparation for retirement programs.

The group discussion type of preretirement education program, the kind that was used in the present research, had its origins at two American universities, The University of Chicago and The University of Michigan. At The University of Chicago, where work was begun in 1951, the program drew heavily on the research findings of social scientists at the University who were engaged in some of the first studies of the problems and adjustments of older people (Cavan et al., 1949; Havighurst and Albrecht, 1953; Friedman and Havighurst, 1954).

At present, the Industrial Relations Center of The University of Chicago has a well developed program titled "Making the Most of Maturity" which it offers to industries throughout the country (Burns, 1960; Burgess, 1960), and it trains personnel men and others as discussion leaders for programs. The University's Union Research and Education Projects unit has developed a second program titled "Looking Ahead to Retirement" which it offers primarily to labor organizations (Anonymous, 1959); it serves as a consultant to labor union groups in the development of preretirement materials, and it offers a training program for labor union discussion leaders.

The University of Michigan conducted the first educational program for older people during the spring of 1948 (Tibbitts, 1948). Although it was not called preretirement education, the program was concerned with and titled "Problems and Adjustments in Later Maturity and Old Age," and was designed to help people adapt to the socio-psychological changes concomitant with aging and retirement. This program, like the one which was to be developed three years later at The University of Chicago, was based on pioneering studies of the needs and problems of adjustment of older people which were conducted by Clark Tibbitts. Later the Tibbitts' program was adapted for use with hourly-rated workers (Hunter, 1956). It is this adaptation which served as a model for the program used in the present research -demonstration project. Other related education programs were added from time to time at The University of Michigan including a liberal education type discussion program for middle-aged people (Tibbitts and Donahue, 1960) and courses to train union and industrial personnel, adult educators, and other professional and lay persons as discussion leaders for preretirement programs (Hunter, 1965).

Pioneering programs at The Universities of Michigan and Chicago gave impetus to the development of programs at other American universities including Cornell University, Purdue University, University of Connecticut, University of Florida, St. Louis University, and California Institute of Technology. Public school adult education departments, government departments, libraries, YMCAs and churches, as well as an increasing number of industries throughout the United States are following the lead of the university groups. A number of the larger labor organizations such as the UAW (AFL-CIO); the International Association of Machinists; the United Steelworkers; the Community Services Department, AFL-CIO; the Upholsterers International Union; and District 65 of the Retail, Wholesale and Department Store Union, AFL-CIO developed programs and encouraged their local unions to offer them to older members. In a few instances labor and management have joined forces in some important pioneering attempts to combine resources in order to develop and sponsor retirement education programs (Hunter, 1965).

Preretirement Education in Industrial Settings

A number of surveys of preretirement education have been made, some very soon after the development of the first group discussion programs at The Universities of Chicago and Michigan (Equitable Life Assurance Society, 1950; Tuckman and Lorge, 1952; Edwin Shields Hewitt and Associates, 1952; Baker, 1952; B. K. Davis Advertising Service, 1953; National

Industrial Conference Board, 1955; the Welfare Federation of Cleveland, 1957; Perrow, 1957; Reich, 1958; the National Committee on the Aging, 1958; the Philadelphia Health and Welfare Council, 1958; Walker, 1958; Mack, 1959; Naef, 1960; Romm, 1960; Breen and Marcus, 1960; Wermel and Beideman, 1961; Franke, 1962; and Shultz, 1963). Some of these surveys such as the B. K. Davis Advertising Service survey, the Welfare Federation of Cleveland survey, and the Philadelphia Health and Welfare Council survey described programs in local communities or regions. Others, including the Equitable Life Assurance Society, Tuckman and Lorge, Hewitt and Associates, National Industrial Conference Board, Wermel and Beideman, and Shultz surveys were national in scope thereby permitting a better assessment of trends in the United States.

The Equitable Life Assurance Society survey (1950) of 355 companies showed that 13 per cent of them had preretirement programs of one kind or another. The 1952 survey by Tuckman and Lorge (1952) presented results for 70 of the largest corporations in the country, representing a combined workforce of 2.5 million persons. Their survey revealed that 37 per cent of the companies had some type of program to prepare employees for retirement. Tuckman and Lorge sum up their findings as follows:

> The most significant finding of this survey is that companies are facing the problems of preparation for retirement at different levels. The majority of respondents having programs in operation cover financial preparation, and the related factors of insurance, hospitalization and surgical benefits. Less attention is given to the physical aspects of aging and steps to maintain health, leisure time and recreation, and outside activities and hobbies which may become revenue-producing. (p. 85)

Although Tuckman and Lorge showed that the companies in their survey used various methods to present preretirement programs, approximately two-thirds of them depended primarily upon individual interviews and counseling.

Hewitt and Associates (1952) surveyed 657 companies with a combined workforce of 2.5 million and showed that individual interviews were used more often than any other method and that most of these interviews emphasized the probable amount of pension benefit and optional settlement, if any. Only 2.7 per cent of the companies offered educational or lecture programs to stimulate interest in retirement.

One of the larger surveys of preretirement education was the one made in 1954 by the National Industrial Conference Board (1955) which studied 327 companies with 4.1 million employees. In answer to the question, "Does your company have any kind of preretirement counseling?" 214 (65.4 per cent) replied in the affirmative. Larger companies were much more likely to have preretirement counseling than smaller companies because in this, as in the two previous surveys, individual counseling dealt for the most part with pension benefits, and the larger companies were more likely to have pension programs.

Whereas in the previous surveys the definition of a preretirement program was left to the respondent, or a single definition such as preretirement counseling was employed, Wermel and Beideman (1961) stated explicitly in their survey of 161 firms (6.0 million employees) that preretirement planning programs consisted of activities beyond those of administering a pension or profit-sharing program and in so doing placed emphasis upon content rather than on method. This survey like the Tuckman and Lorge and the Hewitt and Associates surveys purposely over-emphasized the large manufacturing industries.

Results presented in the Wermel and Beideman survey are based on 161 firms which returned questionnaires. Of these, 40 per cent reported having a preretirement program. Further the authors state:

> By far the greatest number of companies reported as offering retirement planning programs to their employees relied primarily upon personal interviews. In 107 of the 161 surveyed firms with programs, analyses of the responses indicated that individual counseling or discussion interviews formed the chief method...(p. 75)

For the first time in surveys of preretirement programs, however, one sees evidence that individual counseling had been broadened out to cover more than a discussion of pensions. Wermel and Beideman reported that in the case of 107 companies with individual counseling programs 84 of them scheduled sessions formally and included a broad coverage of topics which were developed in advance of the interview. Only 41 or about one-fourth of the companies reported that their programs were based on the group counseling method.

One of the more recent surveys conducted by Franke (1962) is also one of the most trenchant assessments of preretirement education. He identified 43 firms around the country who were reported as having had preretirement programs for a number of years. Franke, like the other investigators, found that the most common approach to preretirement planning was through individual interview or counseling with wide variation in the subject matter covered in the individual sessions.

One of the special values of Franke's survey is its analysis of company attitudes toward the program and the essential requirements of a preretirement program. The companies in his survey named method more often than any other factor as the most essential requirement of a successful preretirement program. His discussion of criteria for the future development of retirement preparation is an outstanding contribution to the field (pp. 62-65).

The most comprehensive of the national surveys was conducted by Shultz (1963). In addition to surveying number and kinds of preretirement counseling programs, Shultz gathered data to study the attitudes of management, employees, and retirees toward retirement in plants with and without programs, and he compared results of individual and group counseling methods.

Like those who had surveyed the field earlier, Shultz found that the individual type program predominated, and that programs were most likely to be found in the larger plants, in plants having a pension program, in plants having a compulsory retirement age, and in plants which were non-union.

Certain conclusions about education for retirement can be reached on the basis of these surveys of programs sponsored by industrial organizations in the United States:

1. The development of preretirement programs and services in industrial settings is a recent one which parallels closely the increase in the number of pensions following World War II.
2. The larger industries tend more than the smaller ones to offer a preretirement education program. This is probably related to the fact that the larger industries are more likely to have pension programs which they and the preretirees wish to discuss.
3. The individual approach (interviews, counseling, or information-giving sessions) predominates. Some individual type programs consist of a single interview just before retirement. A few programs consist of several interviews with the individual conducted over a period of time.
4. Whereas during the early 1950's individual counseling was concerned primarily with a discussion of the elements of a pension program, a trend is apparent in the direction of introducing other topics including health, leisure time, family life, and the choice of a place to live in retirement.
5. The more recent surveys indicate an increase in the number of companies, especially the larger companies, which are beginning to introduce the group-discussion-type program in which several aspects of retirement in addition to income aspects may be covered. The group programs vary in length from six to twelve weekly sessions.
6. There have been very few attempts to evaluate results of programs. Franke (1962) suggests that this is probably due to the fact that most companies do not view a preretirement education program as a major element in company management.
7. Except in the group-discussion-type programs where librarians, recreation workers, public health personnel, physicians, and others are sometimes used as resource people, evidence of community involvement in company sponsored programs is limited Companies expressed a preference for using their own personnel to conduct individual interviews with their employees, and this preference is understandable. Company personnel are better informed than others in the various provisions of their pension program.

Preretirement Education in Labor Union Settings

Breen and Marcus (1960) have made the only comprehensive survey of preretirement programs developed by labor unions. Their objective was to obtain information about existing programs and the attitudes toward and awareness of preretirement programs on the part of labor officials throughout the country. A questionnaire was mailed to all national and international labor unions and to a randomly selected sample of local unions throughout the country. A selected number of respondents were followed-up with personal interviews.

Questionnaires were mailed to 796 unions. Twenty-two per cent (173) of these responded. Only four unions, two nationals and two locals, reported that they were doing anything in the field of preretirement education. Accordingly, much of the analysis deals with those unions which do not have programs. Some of the conclusions reached are:

1. Relatively few unions had plans to initiate programs during the twelve months following the survey.
2. It was apparent that almost 85 per cent of the respondents knew virtually nothing about existing union programs, but that nationals were more aware of other unions' activities in the field than were locals.
3. When asked who should conduct the program, respondents were equally divided between unions and universities.
4. The largest proportion of unions thought a program should be offered during the year on off hours.
5. There appeared to be no significant relationship between respondents' attitudes toward preretirement education and size of the city in which the union was located, regional location of the union, or size of union.

Breen and Marcus (1960) sum up their survey by saying:

> Rather than be discouraged by the lack of information, the dearth of existing programs, or the seeming disinterest in this area as a source of union concern, it is more accurate to describe the present state of union awareness of the problems of older workers as reflective of the whole society... For many unions concern with preretirement education is premature. A union without an adequate comprehensive pension program will naturally place a priority on this benefit... Preretirement education is in its infancy; in time it will become an integral part of the labor union movement in the United States, compatible with the goals, principles and other multiple functions of trade unionism. (p. 46)

Other Sponsorship of Programs

A review of programs sponsored by companies and labor unions fails to reflect the growth of programs which are being sponsored by universities and colleges, public schools, libraries, the various branches of the military service, governmental agencies at both the federal and state levels, YM-YWCAs and church organizations. Although surveys of these types of organizations are not available, it appears that the growth of programs under these auspices may be equal to or even greater than it is under company and union sponsorship.

Preretirement Education in Great Britain

A survey made by the author of preretirement education in western European countries revealed very little awareness of the program except in Great Britain where well developed programs were found in England and Scotland (Hunter, 1965). In England, the National Old Peoples' Welfare Council has organized a Retirement Committee which serves as a national clearing house for information, supplies printed materials, trains leaders for programs and conducts regional and national conferences. In some communities local retirement councils have been created to offer programs. The program in Great Britain, unlike the American program, is supported largely with public adult education funds. The British program tended to be more comprehensive than the American program in the discussion of leisure time. Wives rarely took part in programs, but this was due largely to the fact that British programs tend to be offered on company time and on company grounds. The lecture method, followed by the opportunity to ask questions, predominated among programs in England and Scotland.

Preretirement Education Research

Despite an apparent growth both in the number and kinds of preretirement education activities during the past decade, the program is, as yet, untested, especially among hourly-rated workers. The surveys described above indicated that there was little, if any, effort to evaluate results of the programs and a review of the literature revealed only two reports of research in which an attempt was made to study the effects of participation in programs (Mack, 1958; Burgess, 1960).

Mack (1958) evaluated the effectiveness of preretirement education programs by combining data for 281 subjects who participated in 16 different programs in the Chicago area. The subjects ranged in age from 55 to 82 years with a majority of the subjects between the ages of 60 - 65. They represented various occupational levels, but the author states that skilled and white-collar levels were over-represented. Each subject filled out a "Retirement Planning Inventory" at the first and the final sessions of the programs. Statistical tests were applied to the differences between the percentages of favorable responses to each statement of the inventory on the pretest and those of the posttest situations. Mack concluded that the programs reduced fear and increased positive attitudes toward retirement, increased constructive planning for retirement, and effected desirable behavior changes in retirement preparation.

Burgess (1960) reported results of a research project which compared changes in attitudes and behavior among 200 subjects who participated over a two-year period in a series of preretirement discussion programs as against changes in attitudes and behavior among subjects with no exposure to a program. The highest gains resulting from the program were in retirement planning, financial planning, retirement anticipation, and retirement living. Burgess concluded that there is little doubt that successful adjustments in these four areas are practical conditions to a satisfactory retirement. Only moderate gains appeared in such categories as retirement attitudes, social adjustment and mental outlook. It appears the Burgess study was the first in which a control group was used in preretirement education research.

At the request of the Niagara Falls Board of Education the author conducted a program with a mixed group of 73 hourly-rated and salaried employees who ranged in age from 60 to 65 years (Hunter, 1957). These subjects were employed by three Niagara Falls industries, two of which manufacture chemical products and the other different kinds of business forms. Before and after the program, data were obtained in order to study change in 1) retirement attitudes, 2) retirement planning information, 3) plans for retirement, and 4) plans put into action. It was concluded that significant changes took place in each area investigated except that of retirement attitudes.

The finding which was common to the three studies is that it was much more difficult to bring about improvement in retirement attitudes and mental outlook than improvement in retirement information, planning and preparatory behavior.

As far as could be determined, the Mack (1958), Burgess (1960, and Hunter (1957) studies represent the total of research directed specifically to the evaluation of the effectiveness of preretirement education. Other articles have been published, however, in addition to the surveys mentioned earlier which describe or make tentative estimates of the value of preretirement education programs and services (Anonymous, 1951; Boyle, 1952; Delaney, 1953; Donahue, 1950; Donahue, 1953; Douglas, 1955; Hunter, 1956; Mack, 1954; Noetzel, 1952; Odell, 1959; Perrow, 1957; Segal, 1959; Shultz, 1959; Breen and Marcus, 1960).

Limitations of Previous Research

The research studies cited above showed some obvious shortcomings. Only one of them used a control group, but information was not available to describe methods of selecting the control subjects. The three studies were concerned with immediate rather than long-term effects. In two of the studies (Mack, 1958; Burgess, 1960) salaried employees predominated. Hence, there remains considerable question about the effectiveness of preretirement education with manual or hourly-rated workers. Finally, it is not clear to what extent leadership, materials and methods were standardized for each of the preretirement education programs. Neither was information supplied to indicate attempts to tailor-make materials or methods for special groups of older people including manual workers, many of whom are foreign born and cannot read or write English with ease. In this respect, Burgess and his associates in their study of occupational differences in attitudes toward aging and retirement concluded that different kinds of preretirement materials are required for at least two occupational levels: one kind for higher level supervisory and executive personnel and another for manual or hourly-rated workers (Burgess, Corey, Pineo and Thornbury, 1958).

Concepts for the Study

Theoretical treatment of preretirement education has been exceedingly meager. The first attempts at The University of Michigan and The University of Chicago to develop education programs for those on the verge of retirement were based for the most part on findings that people, as they grow older, face certain crises, changes, or problems, and the presumption that a fuller understanding of these situations would result in better adjustment in the later years. The emphasis on the problem situations of older people or, as Breen (1962) described them, the dysfunctional aspects of retirement, was no accident. Studies conducted just prior to the first preretirement programs offered between the years 1948-1951 revealed a wide range of old age problems--reduced income, decreasing physical vigor, inadequate housing, too much time with nothing meaningful to do, social isolation and a lack of opportunity in a society which placed a low premium on the older person.

Writing some ten years later, Max Kaplan (1961) stated his opinion that the situation has not changed much, and that "by far the larger share of attention has to do with issues of health, economic welfare, housing and other social and medical aspects." (p. 389) Hunter and Maurice (1953) in their study of the older population of Grand Rapids as well as a number of other more recent studies of older populations (Kutner, 1956; Morrison and Kristjanson, 1958) revealed similar catalogues of situations, problems, issues, concerns, and unmet needs of older people. Thus in order to reflect the immediate concerns of the older workers and to motivate their participation in the present experimental programs it was decided to emphasize the same categories of retirement problems in this as in previous programs. This is not to say, however, that participants were not able to choose topics they preferred to discuss.

Social Role Concepts

In addition to being problem-oriented, prototype preretirement education programs were based on the concept that good adjustment in retirement is closely related to role substitution and the maintenance of activity during the later years. Thus to contribute to the well-being of older people, it has been presumed that preretirement education must be concerned among other things with helping the individual to understand the difference between the worker role and the retiree role, to assess his potential for assuming new and different roles, and to anticipate specific ways by which preferred roles can be learned and substituted. Thompson (1958) made it evident, to use his words, that "adjustment to a new status, including the creation of a correlative role, is facilitated and success made more probable if one holds an accurate anticipatory 'cognitive map.' Knowing what to expect, the retiree can more quickly and more successfully program a pattern of living which he can satisfactorily accept." (p. 42)

Implicit in all of this is the assumption that as people grow older and retire it is beneficial for them to change and expand role activity rather than to be relegated to what Ernest Burgess has called the "roleless role" of the retired. In other words, the more actively engaged in meaningful roles a person is after he retires, the happier and better adjusted he is likely to be. Accordingly, older people have been encouraged to develop new interests, made new social contacts, seek out ways of relating themselves satisfactorily to other people, the community and the nation, develop a forward looking orientation to life, and stay mentally alert and physically active.

With respect to providing roles in retirement, Donahue, Orbach and Pollach (1960) observed that issues arise because the institutionalization of retirement has created role changes which as yet have not been assimilated into the normative structure of society. Thus, they maintain that the role transition to retirement is one involving a large degree of ambiguity and uncertainty. This means that the establishment of criteria for preretirement education programs is likely to be difficult. Even so, the position was taken in this research that older people can be encouraged to have ideas about roles they would like to play and that preretirement education programs can be an important setting in which older people can compare and discuss social roles for themselves and visualize ways by which they can be practiced.

The Cornell Longitudinal Study of Occupational Retirement yielded data which showed very little relationship between preretirement planning by older individuals and subsequent adjustment to retirement. Data were obtained, however, which suggest a positive relationship between an anticipatory attitude toward retirement and adjustment in retirement (Thompson, 1958). Hence, it has been suggested that preretirement education should make every effort to reduce anxiety about retirement and create an anticipation for it.

Pertinent also to the present consideration of preretirement education is Barron's (1956) hypothesis that preparation and life-planning are concepts more closely allied with middle-class norms than with norms of most industrial workers, and that present day preretirement programs, to the extent that they reflect the middle-class norms of social scientists and educators who designed them are probably predisposed to miss their mark with industrial workers. Burgess, Corey, Pineo and Thornbury (1958) in their study of occupational differences in attitudes toward aging and retirement support this position. In the present research with automobile workers it was decided, therefore, to develop program materials especially for manual workers rather than use existing materials.

Disengagement Theory

More recently the student of preretirement education has been confronted with a somewhat different conceptualization of the aging process and retirement, namely, the disengagement theory developed by Cumming and Henry (1961). In their theory aging is viewed as a natural, inevitable self-perpetuating and mutual withdrawal between the aging person and the social system to which he belongs. Most older people are supposed to welcome disengagement; and, if health and economic independence are guaranteed, the only people who have a retirement problem are those who cannot reintegrate with a membership group and those who cannot shift their skills from instrumental to socio-emotional roles; and even these retirement problems are temporary and self-resolving.

Thus, it could be argued in relation to the theoretical formulation of disengagement that preretirement education will do older people a disservice if it fails to recognize the natural and inevitable tendency of people as they grow older to disengage themselves from the society in which they live. Clearly, present day preretirement programs including the one developed as part of this research were not so orientated.

Personality and Learning Theories

Although present day preretirement education refers for the most part to sociological theory--most program development and investigation has been undertaken by sociologists--there is much about the older individual who participates in preretirement programs which should be understood in any attempt to assess the effects of preretirement education. In this regard Anderson (1956), Riegel (1959), Kuhlen (1959) and Birren (1964) have produced definitive statements on personality theory, learning theory, aging and life adjustment. But because preretirement or adult education in general is not the concern of these volumes one may, also, profitably refer to Anderson (1955) and Lorge (1955) for their insightful treatment of the learning process with special reference to the older person in adult education programs. Both Anderson and Lorge take the point of view that older people have the capacity to learn new interests, skills and attitudes that make possible a more satisfactory adjustment in retirement. Anderson's (1955) statement on teaching and learning of older adults was a principle source of educational concepts and practices for the present research.

Group Discussion Concepts

Various purposes were derived from group dynamics theory for the preretirement education programs which were offered as part of this research; such as:

1. The program should create a permissive atmosphere in which participants were comfortable and free to express their concerns, interests, goals, fears and expectations.

2. Participants should be encouraged to make the program their own. In other words, they should have the opportunity to accept, reject or modify the over-all topical plan which was initially presented to them.

3. Husbands and wives should be encouraged to share their views of retirement and to make joint decisions about the future.

4. Members of the group should be encouraged to recognize that the problems of aging are fairly common, and that a good many people share fears and concerns about retirement.

5. The program should provide opportunity for people to interchange ideas and experiences.

6. Misinformation and misconceptions about aging and retirement should be vigorously challenged.

7. Ample opportunity should be provided for members to acquire complete, accurate, up-to-date information about a variety of retirement situations. For example, it was determined that members of the preretirement groups should obtain accurate information about the amount of income from all sources they would have to live on in retirement.

8. The program should expose participants to the gamut of retirement problems and situations which studies have shown is to be found among older people.

9. Members should be made aware of different solutions to retirement problems and encouraged to select one or more solutions which seem to be appropriate as a basis for developing plans of action.

10. Members should be encouraged to make decisions about the future and to put these decisions into effect. Participants should be given problem-solving experiences in the group.

11. The program should stimulate continued learning, planning and decision-making between sessions and following completion of the program.

12. Finally, the program should present a positive view of retirement and encourage participants to develop or reinforce an anticipatory attitude toward retirement.

It was presumed that discussion in a group setting was the most effective method for achieving many of the above goals. In this regard, Bond (1956), Hill (1960) and McKeachie (1963) have reviewed the important studies of the past decade which compared the discussion method with the lecture and other methods. Although these reviewers show that the results of most of these studies were in line with our presumption of the greater effectiveness of the discussion method, it should be noted that the evidence which is presented was not overwhelmingly in favor of one method or another. Perhaps of even greater import is the fact that none of the studies were conducted with older adults as subjects or in an adult education setting.

Summary

In sum, the content of the educational program which participants in this research were asked to accept or modify in the light of their own needs and concerns was conditioned initially by findings of a number of creditable studies which concluded that as people grow older they are likely to be confronted with certain crises, changes, problems, or tasks of everyday living which must be resolved if retirement is going to be a satisfying period of one's life. Accordingly, the program was designed to make participants aware of the gamut of retirement contingencies and to provide them with as much information as possible about each contingency.

Having encouraged participants to come to grips ahead of time with the reality of retirement, the basic premise underlying the program was that each workers would benefit from exploring various substitutes for the work role including roles within such institutional settings as the church, school, union social club, community service roles, and others. To facilitate the acquisition of substitute roles, workers in the program and their wives discussed the possibility of cultivating new interests, making new friends, helping other people, taking part in public elections, becoming involved in the social issues within their neighborhood and community, and so forth. Continuation of the work role after retirement, at least on a part-time basis, was also of interest to a few of the older workers; and, accordingly, there was the opportunity to discuss job opportunities and techniques for finding employment.

Finally, it was pointed out that empirical data from a number of studies were partially supportive of the decision to use the discussion method rather than some other method for the preretirement education program.

III. OBJECTIVES AND METHODS OF THE STUDY

In the previous section retirement was described as a process by which individuals at an increasingly younger age were required to move from a work to a leisure-focused way of life. Although the transition may be frought with problems, the position was taken that retirement need not be a period of uselessness, frustration, and dissatisfaction; and, it was noted that a few gerontologists have developed preretirement education programs which were being presented in various settings to help adults make acceptable adaptations to the retirement years.

Several techniques were employed to offer the programs including interviews, group discussion, lectures by experts, the use of films, autobiographical experiences, exhibits, and reading materials. The surveys showed that many more individual type than group discussion type programs have been offered, and that industrial organizations have predominated among the different kinds of sponsors of programs. The most recent emphasis in the field is that of providing preretirement programs for hourly-rated industrial workers in contrast with earlier efforts to offer programs to salaried personnel.

Despite this new emphasis, preretirement education for industrial workers was shown to be an untested program. A review of the literature indicated that benefits of participation in preretirement education were based for the most part on subjective kinds of information, and only one study was experimentally designed. Moreover, each of the major programs for hourly-rated workers depended on reading and visual materials which had not been determined to be commensurate with the interests, understanding, and reading comprehension of the groups for which they were intended.

Purposes of the Study

Thus the two major purposes of this study were 1) to develop and test preretirement education materials and methods especially for hourly-rated workers and 2) to determine the immediate effects of participation of hourly-rated workers and their wives in a group discussion-type preretirement education program. To accomplish the first of these goals six types of materials were prepared: a series of eleven essays, each one dealing with a different topic such as health in the later years; a handbook of case histories of retired people, their feelings and their reactions to retirement told in short story form; a retirement checklist to help the individual assess his readiness for retirement; a series of seven three to four minute 16 mm sound films and a series of 20 still pictures both of which were designed along thematic apperception test lines; and a discussion leader's manual which deals primarily with program methods.

The effects of participation in a preretirement education program were examined by testing the null hypothesis that there were no significant differences in mean scores and in mean change scores on measures of morale, life satisfaction, anticipatory attitudes toward retirement, and preparation for retirement among four groups of hourly-rated workers and their wives following participation of two of them in a group discussion-type preretirement education program.

Following the testing of preretirement education materials and methods it was intended that they should be used in training leaders for programs and made available to a maximum number of interested groups including companies, labor unions, and adult education departments throughout the United States.

A fully developed theoretical framework upon which to base the present research does not exist. Nevertheless an attempt was made to take into account existing empirical evidence on various aspects of retirement, and to utilize available social role and group process concepts in the formulation of the research and program methods.

Subjects for the Study

Subjects for this study were hourly-rated male workers, 60 years of age and older who were employed full-time in automobile assembly plants located in the Detroit metropolitan area. In addition, all subjects lived in Detroit or its suburbs and were members of a United Auto Workers local union. At the time of the study automobile workers 60 years of age and older could elect to retire at any age between 60 and 68. Hence subjects could be as much as eight years or as little as a few weeks from retirement. All subjects were eligible to receive benefits from a similar company-U.A.W. negotiated pension.

Participation of the workers in the research program was voluntary. The wives of subjects were also invited to participate in the program. Voluntary participation of this kind undoubtedly resulted in a self-selection of subjects but it was presumed that study findings would be useful because it is unlikely that preretirement education programs will ever be offered on anything but a voluntary basis similar to the one used in this study. Not only was it necessary to use volunteers, but only those volunteers who did not intend to retire before completion of the study could be accepted.

During the planning stages cooperation in the study was sought from the major automobile companies in Michigan and the United Auto Workers International Union. The companies possessed many kinds of information about hourly-rated employees which was useful for sampling purposes, such as age, sex, marital status, residence, occupation, annual earnings, rate of pay, place and department of employment; and most of the information was on Hollerith cards.

Having access to basic socio-economic data of these kinds, the plan was to examine as many company groups as possible from which at least two study groups could be selected. Comparability of study groups on as many socio-economic variables as possible was a major objective as was the need to prevent as far as possible interaction during the course of the research between persons who were selected as experimental and control subjects.

None of the automobile companies agreed to release data to the project or to help contact their older employees. On the other hand, three major divisions of the United Automobile Workers International Union agreed to assist by making contact with their local unions and encouraging them to cooperate in the research project. The Older and Retired Workers Department of the United Auto Workers International Union had just begun to conduct preretirement programs for local unions in Michigan and it saw the research project as a way of enlarging its efforts in the field.

The Older and Retired Workers Department, U.A.W. assigned one of its staff members who was well known in local unions throughout the Detroit area to work closely with the research project staff. Direct assistance of this kind was indispensable because although the International Union and its division headquarters were cooperative, each local union made its own decision whether or not to participate.

Before a local union accepted the request to cooperate in the research project its president had first to endorse the plan and in turn he usually sought the approval of the members of his executive committee. Most of the locals accepted our invitation with the provision that any interested member of the local, rather than only those who were at least 60 years of age, be allowed to enroll. This meant that the program had to be offered to more subjects than was intended. On the other hand, it would be most unlikely that, in practice, union or other groups would establish the same eligibility criteria as were used for the present research. Hence, experience with groups comprised of workers younger and older than 60 years of age was desirable.

The project was rejected by some local unions and the reasons given were that the union officials disliked the idea of having "university people" doing a program in their local, that they thought ten sessions were too many, that they were already counseling their members or that they thought their members would not be interested. Other locals were not considered because they had already offered preretirement education programs with the help of the Older and Retired Workers Department of the International Union.

Although there were distinct benefits to the research project from working through the United Auto Workers International Union and its local unions, the fact of the matter was that local unions knew little more about their members than their name, address and job assignment in the plant. None of them had any information on the age of members, their expected retirement date, income, education, or marital status. Thus it was necessary to revise the original plan for obtaining subjects for the experimental and control study groups. First it was decided to apply only to those locals whose members worked in identical kinds of automobile assembly plants. The purpose of controlling the source of subjects in this manner was to equate to the maximum extent occupations and rates of pay. Second, the decision was made to use locals in different parts of the city to minimize the opportunities for experimental and control subjects to interact with each other, either in the plants or in other settings.

Although older automobile workers tended for the most part to live in the same general areas as the plant in which they worked, this was not always the case, especially when workers had changed jobs from one automobile plant to another. Nevertheless, as far as could be determined, none of the experimental and control subjects lived within the same neighborhood, belonged to the same church, social club, local union or other group. Moreover, none of the control subjects indicated during the interviews that they had any knowledge of the experimental programs or of the workers in them. There was no announcement of the experimental programs except within the local union groups involved, and staff persons from the international and local union groups who had knowledge of the project were asked not to discuss or write about the experimental programs until the completion of the project.

The invitation to workers and their wives to participate in the study was presented at mass meetings which were called by union leaders to discuss provisions of the union-company negotiated pension program and to hear a speaker from The University of Michigan discuss participation in a preparation for retirement program. Following a discussion of the pension program the author was given the opportunity to encourage participation in the research project either as experimental or control subjects. Potential experimental subjects and their wives were invited to enroll in a preretirement education program to begin in two weeks time at the local union hall while potential control subjects and their wives were asked to allow an interviewer to come to their homes and talk to them about various aspects of retirement. The purpose of the interviews was stated in terms of the interest of the local U.A.W. union and the University in developing the best possible preparation for retirement programs for older automobile workers generally.

Three out of a group of eleven local unions were selected as the most appropriate sources of subjects, two as sources of control subjects and one as a source of experimental subjects. The distance between the local union which supplied experimental subjects and the two local unions which supplied control subjects was approximately 10 miles.

Table 1 shows that 183 subjects volunteered initially for the preliminary study and that 41 subjects were lost to the study for one reason or

TABLE 1. NUMBER AND SOURCES OF SUBJECTS FOR THE STUDY

Categories	Experimental subjects from local union A	Control subjects from local unions B & C	All subjects
Initial volunteers			
Workers	48	60	108
Wives	33	42	75
Totals	81	102	183
Subjects lost to the study			
Workers	12	8	20
Wives	8	13	21
Totals	20	21	41
Study population			
Workers	36	52	88
Wives	25	29	54
Totals	61	81	142

another, leaving 142 subjects in the final study population, 88 older workers and 54 wives.

The principal reasons for losing subjects during the study were their failure as experimental subjects to attend at least 7 of the 10 preretirement education discussion sessions or their refusal to be interviewed.

Comparability of Study Groups

It was not feasible, as pointed out earlier, to determine arbitrarily the specific composition of the experimental and control groups for the study. On the other hand, certain controls were exercised which were intended to increase the comparability of the two groups and justify the statistical evaluation of program effects. All subjects were males, 60 to 68 years of age, who expected to retire within a period of 12 to 18 months under provisions of the same negotiated pension system. Also, by definition, all subjects were employed full-time on hourly-rated jobs in assembly type automobile plants. All subjects lived and worked in the Metropolitan Detroit area.

Presumably, initial controls of these kinds would have the desired effect of increasing the comparability of the experimental and control populations on such other socio-economic variables as standard of living, income while working, attitudes toward retirement, education status and health status.

All subjects volunteered, as noted earlier, to take part in the study during a mass meeting which had been called by their local union on the subject of pensions and the possibility of participation in a preretirement education project. What effect selection of this kind would have on the composition of the experimental and control groups was not known. It was presumed, however, that the effects of self-selection, whatever they might be, would operate similarly in the two study groups.

During the initial interview with experimental workers and their wives and with control workers and their wives data were collected which make possible the comparison of study populations of workers and of wives on the basis of various characteristics, any one of which could have an effect upon program results, as follows:

Age
Marital status
Race
Birthplace
Education status
Residential status
Occupational status
Financial status
Health status
Social participation status
Time to expected retirement date
Principal reasons for retiring

Table 2 summarizes the various statistical comparisons of experimental and control workers and of experimental and control wives prior to the initiation of the preretirement education program.

TABLE 2. STATISTICAL COMPARISONS OF EXPERIMENTAL AND CONTROL WORKERS AND WIVES PRIOR TO THE PROGRAM

Characteristics[a]	Statistical significance of comparisons[a]	
	Experimental versus control workers	Experimental versus control wives
Age	*	*
Marital status	.05	-
Race	*	.05
Religion	*	-
Birthplace	*	*
Educational status		
Number of school grades completed	.05	*
Difficulty reading or writing English	*	*
Residential status		
Years lived in present community	*	-
Home ownership	*	-
Problems with home	*	*
Plans to move after retirement	*	*
Occupational status		
Previous employment status of wives	-	*
Present employment status of wives	-	*
Type of occupation	*	*
Most important reason for working	*	*
Satisfaction with present job	*	-
Desire to change job	*	-
Worry over ability to do job	*	-
Financial status		
Source of income	*	-
Amount of income from all sources	.05	-
Adequacy of present income	*	*
Worry over money matters	*	.01
Standard of living	*	*
Health status		
Self-rating of health	*	*
Change in health for better or worse	*	*
Health problems	*	*
Extent of worry over health	*	*

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[a] To examine differences in characteristics between experimental and control subjects a Chi-square or the Fisher's exact test was used. Frequency distributions of the various characteristics are shown in Tables 30 through 52, Appendix 1. Differences between experimental and control subjects were considered to be statistically significant when the probability of their occurrence under the null hypothesis was .05 or less and not significant if the probability was greater than .05.

(-) = not ascertained or not appropriate
(*) = not significant at the .05 level of confidence

TABLE 2 (Continued)

Characteristics[a]	Statistical significance of comparisons[a] Experimental versus control workers	 Experimental versus control wives
Social participation status		
Extent of membership in organizations	*	*
Frequency of visits with friends and relatives	*	*
Retirement status		
Time to expected date of retirement	*	-
Most important reason for retiring	*	-

[a] See footnote to Table 2 on previous page.

(-) = not ascertained or not appropriate
(*) = not significant at the .05 level of confidence

As shown in Table 2 experimental and control workers were matched on 27 variables including age, race, religion, birthplace, residential status, occupational status, health status, social participation status, time to expected date of retirement and reason for retiring. The groups of workers differed, however, in regard to marital status (more of the control subjects were married), educational status (experimental subjects had more education) and income (experimental subjects had less income). Despite the difference in education and income the two groups did not differ in the amount of difficulty they had reading or writing English, in their estimate of the adequacy of their income, or the extent to which they worried over money matters or their standard of living. Even so, these results suggest that differences in education and income should be taken into account in the analysis of program effects.

Table 2 and the reference tables in Appendix 1 also show that experimental wives differed significantly from control wives in two respects: 1) control wives had a larger proportion of Negroes and 2) experimental wives worried more over money matters.

Although it was not feasible to determine arbitrarily the composition of the experimental and control groups it appears that the limited number of initial criteria for selecting subjects for the study had the effect of producing comparability of experimental and control groups of workers and their wives on a relatively large number of variables.

Criteria for Measuring Program Effects

Chapter II discussed the problem of developing satisfactory instruments with which to study the attitudes and behavior of older people or to measure the effects of their participation in a preretirement education program.

Because it is generally agreed among students of aging that much more conceptual work and analysis needs to be done before solutions will be found to measurement problems in gerontological research, the decision was made to use various instruments which had already been tested in the Cornell study of occupational retirement (Streib and Thompson, 1957; Thompson, 1958).

Two types of adjustment measures were borrowed from the Cornell study 1) a general type satisfaction with life or morale index and 2) measures of specific kinds of attitudes and behavior such as attitude toward retirement, attitude toward income and plans for retirement.

Two other sources--Bernard Kutner's study of 500 people 60 years of age and older (Kutner, 1956) and Ernest Burgess' study of preretirement education (Burgess, 1960)--were used from which to borrow a morale index and items of a preparation for retirement inventory respectively.

Table 3 summarizes the various indexes which were administered to subjects at the beginning and again at the end of the study to assess changes in the attitudes and behavior of four panels of subjects, two of which participated in a preretirement education program.

TABLE 3. INFORMATION ABOUT THE BATTERY OF INDEXES USED TO MEASURE EFFECTS OF THE PRERETIREMENT EDUCATION PROGRAM

Category, number and name of index	To whom administered		Number of items[a]	Scoring system (+ or -)[b]	Description of index[c]
	Workers	Wives			
I. General Attitude Toward Life					
1. Satisfaction with life	X	X	3	+	A general assessment of satisfaction, happiness and good spirits which was presumed to measure adjustment.
2. Morale scale	X	X	7	+	A measure of adjustment in terms of the presence or absence of satisfaction, optimism, and expanding life perspective.

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[a] Minimum and maximum scores can be read from this column. For example, scores for the Satisfaction with Life index could range from 0 to 3.

[b] A plus (+) sign indicates that positive responses were given a score of 1 while a minus (-) sign means that a negative response was given a score of 1. This difference is important in the interpretations of results because a high score is preferred on all measures "positively" scored while a low score is preferred on all measures "negatively" scored.

[c] Items and scored responses for each index are presented in Appendix 2.

TABLE 3 (Continued)

Category, number and name of index	To whom administered		Number of items[a]	Scoring system (+ or -)[b]	Description of index[c]
	Workers	Wives			
II. Age Concepts					
3. Self-concept of age	X	X	1	+	Indexes whether the individual thinks of himself as being old, middle-aged, or something else.
III. Attitudes Toward Retirement					
4. Attitude toward retirement	X	X	3	+	Indexes whether the subject thinks retirement is good or bad, looks forward to retirement, and would continue working if he could.
5. Preconception of retirement	X	X	2	+	Measures whether subject believes he has a good idea of what retirement life will be like and how in general he thinks things will go in retirement.
6. Anticipated adjustment to retirement	X	-	2	+	Indexes two aspects of adjustment--the time the worker thinks it will take to get used to retirement and difficulty he will have keeping occupied.
7. Anticipated dissatisfaction with retirement	X	X	4	-	Anticipated dissatisfaction is indexed by various attitudes toward not working.
IV. Attitudes Toward Health					
8. Self-appraisal of health	X	X	4	+	An index of health based on self-rating, health changes, existing health problems and recent care by a doctor.

See footnotes a, b, and c on first page of Table 3.

TABLE 3 (continued)

Category, number and name of index	To whom administered		Number of items[a]	Scoring system (+ or -)[b]	Description of index[c]
	Workers	Wives			
9. Worry about health	X	X	1	-	Indexes amount of worry over health.
V. Attitudes Toward Income					
10. Attitude toward present income	X	X	3	+	A measure of subject's ability to meet expenses, the extent of worry over money matters and his view of his standard of living.
11. Attitude toward retirement income	X	X	1	+	Indexes whether subject thinks he will have enough to live on in retirement.
VI. Attitude Toward Job					
12. Attitude toward job	X	-	6	+	Indexes subject's feeling about job, supervisors, co-workers and his ability to perform on the job.
VII. Preparation for Retirement					
13. Retirement planning propensity	X	X	3	+	Indexes subject's attitude toward planning in general and specifically for retirement.
14. Plans for retirement	X	X	1	+	Indexes whether subject has made plans for things to do after he stops working.
15. Preparation for retirement--A	X	X	12	+	Indexes 12 general kinds of preparation.
16. Preparation for retirement--B	X	X	20	+	Indexes 20 specific kinds of preparation.
17. Readiness for retirement	X	X	1	+	Indexes how well prepared for retirement subject believes himself to be.

See footnotes a, b, and c on first page of Table 3.

The items in each index, method of scoring and other information about the instruments is presented in Appendix 2.

Seven categories of indexes are listed in Table 3, as follows:

I. General Attitudes Toward Life
    1. Satisfaction with life
    2. Morale (Kutner)

II. Age Concepts
    3. Self-concept of age

III. Attitudes Toward Retirement
    4. Attitude toward retirement
    5. Preconception of retirement
    6. Anticipated adjustment to retirement (workers only)
    7. Anticipated dissatisfaction with retirement

IV. Attitudes Toward Health
    8. Self-appraisal of health
    9. Worry about health

V. Attitudes Toward Income
    10. Attitude toward present income
    11. Attitude toward retirement income

VI. Attitude Toward Job
    12. Attitude toward job (workers only)

VII. Preparation for Retirement
    13. Retirement planning propensity
    14. Plans for retirement
    15. Preparation for retirement index A
    16. Preparation for retirement index B
    17. Readiness for retirement

These same categories will be used as a basis for presenting the findings in the next chapter of the report. Thus, the analysis will proceed from data obtained by use of measures of general attitudes toward life and aging to data obtained by use of measures of specific attitudes toward preparation for retirement.

Although there is some apparent overlap each index was intended to measure a different program effect. For example, there are four indexes of attitudes toward retirement described in Table 3. The first of these is a general view of retirement. It asked the subject to state whether, in his view, retirement is good or bad. The second index titled "Preconception of Retirement" asked the subject to state whether he has a fairly good idea of what retirement will be like, and how, in general, he thinks things will go in retirement. The third index in this series is concerned with two important dimensions to adjustment in retirement--the time the subject thinks it will take him to get used to retirement and the difficulty he anticipates having in keeping occupied.

Considerable emphasis was placed in the preretirement education program on individual responsibility for taking specific steps on his own to become better prepared for retirement. In this respect the seventh category of indexes measures propensity to plan for retirement and actual preparation of one kind or another which the subject had initiated.

Hypotheses of the Study

Despite a steady growth in the number and kinds of preretirement education programs during the past twenty years, there has been only minimal effort, as reported in Chapter I, to define objectives and measure effectiveness of the program. Thus, a major purpose of the present study was to compare the attitudes and behavior of four panels of automobile workers and their wives, two of which had participated in a preretirement education program.

Three principal null hypotheses were established as a basis for making the comparisons:

1. that the panels of older workers and wives who participated in the preretirement education programs did not make any different mean scores on a number of measures of program effect than similar groups of workers and wives who had not been exposed to the preretirement education program;

2. that there were no differences between experimental and control subjects in mean change scores on various measures of program effect; and

3. that among the workers there were no differences in mean scores and in mean change scores on the various measures of program effect between various subsamples of the experimental and control study populations such as white and Negro workers, workers with high and low education, workers with high and low income, and workers who were married as against workers who were not married.

The problem of presenting data obtained with the use of as many as 17 different indexes, at two different points in time, for experimental and control groups, as well as on a number of subgroups of experimental and control subjects, is a complicated one. Under these circumstances, it is possible in this report to present only the preliminary kinds of comparisons, leaving more complex analyses of variables to subsequent reports. However, before turning to the section on data analysis, a brief summary of the methods taken in the over-all conduct of the study seems desirable, especially the methods that were used to develop and conduct the preretirement education program.

Organizational Procedures

Having made final decisions about the measuring instruments to be used, questionnaires were devised for interviewing subjects before and after the study, one set for the workers and another set for their wives.

Following field trials of the questionnaires, they were revised and made ready for the study. Soon thereafter, training sessions were conducted for a group of interviewers. Also, during the initial phase of the study, coding work on the questionnaires was started, and a series of interviews with a number of local union leaders were initiated to make arrangements for conducting a series of preretirement education programs with their members, or for inviting their members to serve as control subjects.

Unions were selected which represented hourly-rated workers in assembly type automobile plants. The possibility of interchange between experimental and control subjects was eliminated to the extent possible and a series of mass meetings of older workers was conducted at the local union hall at which time workers who planned to retire within the period of the study were invited to participate.

The experimental and control subjects, husbands and wives, were interviewed prior to their participation in the program and again upon completion of the program. Similarly, the control subjects were interviewed twice, once upon entry into the project and again just prior to the completion of the project.

Program Methods

The origins of the preretirement education program used in this research as well as adaptations which were made from time to time to accommodate special groups of older adults including manual workers and their wives have been described in Chapter II. Similarly, Chapter II contains a summary of group discussion principles upon which the program was based. Our purpose here is to outline the principles underlying each of the discussion meetings and to summarize the techniques that were used to encourage participants to discuss their expectations and concerns about many aspects of retirement and to make decisions about their living in retirement.

The program consisted of ten weekly sessions held in the evening for two and one half-hours for groups of workers and their wives. The groups ranged in size from 20 to 30 participants including the wives and in one or two instances an adult daughter or son of the worker. Workers must have attended seven of the ten sessions in order to be included as experimental subjects. This did not create as great a problem as expected, because there was very little attrition following the second session except for sickness or death.

Previous research on the needs and problems of older people, and experience in offering older people preretirement education and other programs made it possible to predict to some extent what it was the workers and their wives would consider important aspects of retirement for discussion, and, accordingly, reading and visual materials were prepared ahead of time to reflect the expected concerns and interests. On the other hand, it was recognized that individuals might differ in their recognition of some problems, and especially in their readiness to discuss them. For this and other reasons, the first meeting was a crucial one for purposes of establishing the content of the various sessions.

In this regard, participants and the leader shared in making decisions about content of the program--participants on the basis of needs they were willing and ready to talk about, and the leader on the basis of needs he had heard expressed in previous discussion programs for older people.

The two and one-half hours devoted to each session was never enough time in which to talk out all aspects of an issue, problem or plan of action. Neither were ten sessions adequate in which to cover everything of interest to participants. The position was taken that unanswered questions or incomplete plans would stimulate the participants to think and to make decisions between one session and the next and following completion of the program. There was evidence that the 25 hours spent in the group discussion were, as a matter of fact, amplified many times as workers, their wives, or other relatives and friends talked over the ideas that had been generated through discussion. Some of this "extra" time spent preparing for retirement was prompted by husbands, wives, relatives or friends reading and discussing the "preparation for retirement" booklets and short stories which were made available to everyone in the program. Nevertheless, the time was all too short in which to do more than initiate the process and hopefully the habit of thinking through retirement situations and of weighing as carefully as possible the various alternatives. This point was made clear in the first session. The point was also made clear that the leader was not expected to have all of the answers. This was difficult for some participants to accept because in their view a "professor" at the University ought to be able to tell them all the answers. It was also difficult at first for many of the participants to share responsibility for the discussion with the leader and to discipline themselves in order to give others equal opportunity to participate.

In sum, the first session of the preretirement education program was concerned with the following specific objectives:

1. Creating a permissive atmosphere in which participants felt welcome, at ease, and able to discuss their concerns.

2. Enabling participants to make decisions about the content of the program.

3. Encouraging participants to get acquainted with each other and the leader.

4. Encouraging participants to accept the need for shared responsibility in group discussion, responsibility for preparation before the meeting, and responsibility for the actual conduct of the meeting.

5. Initiating the maximum interaction in terms of ideas, information, attitudes and ways of doing things.

6. Practicing the process of decision-making in the group.

7. Encouraging older people to develop a positive frame of reference in regard to aging and retirement, and to create meaningful roles for retirement living.

8. Creating anticipation for future sessions, and the desire to continue the process of preparing for retirement between sessions by reading, discussion, observation and self-analysis.

Beginning with the second session the program consisted of seven meetings in which specific issues were discussed and a final session devoted especially to a review of plans and to socialization among the members. Here, then, is a brief statement of the principles which guided the conduct of each of those sessions.

Work and Retirement Issues

The second session was devoted to the meaning of work and retirement in our modern industrial society not only because the issues involved are central to any understanding of the retirement process but also because it gave the opportunity to discuss a positive view of retirement and its potentials. Moreover, experience in discussion programs indicates the need for a "warm-up" period of at least two sessions in which participants have the opportunity to sit back, observe, make estimates of each other, get better acquainted and practice participation in a discussion setting. As might be expected automobile workers and their wives did not usually suggest the topic of work and retirement, at least in gerontological terms. On the other hand, they rarely failed to enter into the discussion of a comparison of work and retirement with considerable interest. A film, still pictures and a short essay on the subject were used to prompt discussion. One of the most effective techniques was that of having retired automobile workers and their wives tell what it meant to be retired. The wife's account of her husband's attempt at adjustment, his tendency at first to get in the way usually brought forth a good deal of humor. More importantly, participants learned from hearing about realistic life experiences of people they could understand. Thus what could have been a rather gloomy gerontological recitation of all the problems of retirement and old age usually turned into an exciting encounter with retirement in real life. Of course the responsibility of the discussion leader for choosing positive models in this and other sessions is self-evident.

By this time it will have occurred to most readers that the leadership role in this program was something more than calling together a group of people and asking, "Now what would you like to talk about?" In this instance it was the leader rather than the participant who suggested a discussion of the meaning of work and retirement, and he took the initiative to call on retired people to talk about their experiences. The first program showed the value of the discussion of work and retirement, and it was continued in all subsequent programs.

Income Issues

As might be expected the participants always suggested that the program should include a discussion of the sources and amounts of retirement income, and usually for "strategic" reasons this discussion occurred during the first half of the program. It will be recalled that participants came to the program by way of attendance in a mass meeting called by their local union on the questions of retirement, social security, and pension benefits.

Every effort was made to give participants an opportunity to make an accurate estimate of their retirement income. Company and union personnel were on hand to help compute pension benefits and a social security resource person attended to answer questions. Follow-up investigation was encouraged with these as well as other resource people including the worker's banker and insurance agent because there was never enough time in one session to investigate all possible circumstances. It was especially important to have company, union and social security personnel go out of their way to encourage the participants to contact them personally if they had further questions.

This session like the one on legal issues depended to a larger extent than the others on the presentation of a good many facts using the lecture method. In addition, forms were handed out and a beginning made on computing pension benefits. Other printed materials were handed out to explain pernsion and social security benefits.

Money-Management Issues

There was the need not only of knowing how much income would be available for retirement from various sources but also how much it was going to cost to live, and if there wasn't enough money to go around, what could be done about it. The money-management discussion was purposefully scheduled far enough in advance to give participants the opportunity to keep an exact record for one month of all expenditures. Usually a third of the participants decided to keep records and this experience was adequate for purposes of comparing expenditures before and after retirement.

The main object of the discussion was to move those participants who were worried, concerned and feeling helpless to a position of recognizing certain practical steps which could be taken including family budgeting. Retired couples were often called in to tell how they had managed financially.

Some of the participants expressed a desire to find gainful employment after retirement because they anticipated the need to supplement their regular retirement income, but also because they wanted to work for the sake of doing something useful. When more than a half-dozen were interested in employment, time was found to discuss what it means for an older person to look for a job, what kinds of jobs are available, and how to approach an employer. Participants pointed out that it had been a long time since they "had pounded the pavements" looking for work. It was suggested that those others who did not express an interest in the topic might take a cue from retired workers who sometimes return to work temporarily in order to buy a new stove, a car or to carpet the living room.

Physical Health Issue

To be effective this session needs to involve people who can speak with authority on questions of health such as a physician, a registered nurse and a dietician. When a physician participates it is suggested he discuss the meaning of symptoms, rules for good health, rehabilitation procedures, a positive philosophy of potential health, and especially the individual's responsibility for maintaining his own health rather than give a medical school type lecture on the various diseases of older people.

Another important consideration in any discussion of the physical health issue is the reluctance of many people to seek out medical attention, not only when they are sick, but also when they are well.

The style of this particular discussion owes a great deal to Dr. Edwin Smith, Associate Professor of Physical Medicine, The University of Michigan, who served as a resource person in the experimental programs, prepared the written essay on health which participants read ahead of time, and advised on the preparation of the film which was used with this discussion.

But probably the most important goal of this discussion is that of helping older people recognize that aging is a normal process which serves a useful biological purpose; that old age and sickness are not one and the same, and that much can be done by the individual and the health professions working together to insure a healthy old age.

Mental Health Issues

The point of view was taken that stress, strain, frustration and uncertainty are common feelings of people especially at times of major physical and social change, but that the measure of a mentally healthy person was the manner by which he accepted responsibility for his own future and did something about it.

What are the basic needs of people? What happens when needs are not satisfied? Is it possible to anticipate our needs in the later years and to make decisions which in the long run will enhance our adjustment to people and our environment? How would we characterize older people we know who have made a success of retirement living? Films, short stories, still pictures, mental health and retired resource persons, and discussion itself were intended to help participants find answers to issues of these sorts. Moreover, there was great value to talking these things over in a group setting. There was obvious lessening of anxiety in some cases when it was recognized that mental health concerns were common among all members of the group.

Finally, changing mental capacities were discussed and potential for maintaining them at a maximum functional level in the later years. In this regard, it is of interest that several of the workers touched off the discussion of mental health in terms of the loss of memory in old age.

Issues of Family, Friends and Living Arrangements

The mutually supportive behavior of husband and wife, relatives and friends was emphasized as a crucial element in any attempt to achieve good adjustment in old age. Accordingly, the idea that we are "social beings" who require interaction with and the support of other people to realize our full potential at all stages of the life cycle including the retirement stage was discussed at length as well as those factors in the later years which mitigate against mutually satisfying social relationships. Individual responsibility for trying to understand the attitudes of children, the need to live one's own life, but at the same time to accept help when it is needed, and the desirability of sustaining or even expanding one's social life space were concepts which were fed into the discussion by the leader and others and reacted to by the participants.

The questions of where to live in retirement were discussed first of all in terms of the changing needs of people from 60 to 90 and secondly in terms of a place to live having to be something more than a roof over one's head. Living with one's children, living in a home for the aged and living alone were given special attention. Participants were urged to observe first-hand as many types of housing for older people as possible. Check-lists, essays and short stories were made available to help identify the important considerations when moving to a new location, or living with children, in a home for the aged or alone.

The most valuable techniques for stimulating discussion of where to live in retirement was that of asking two couples in the group with different plans to present their viewpoints to the group for review and development.

Legal Issues

When older people in the preretirement education programs were asked to identify questions of a legal nature, fifteen to twenty different questions were frequently expressed which the leader put on the blackboard. Despite this apparent concern, the first reactions of Professor Richard Wellman of The University of Michigan Law School, who developed materials and served as resource person for this particular discussion, was under no circumstances should the discussion of legal affairs take the place of seeking actual legal counsel on an individual basis.

With this injunction in mind what was covered were such questions as: What happens if a person does not have a will? What is the difference between an executor and administrator? Is it a good idea for the individual to make his own will? What does one need to know about joint ownership of property? What is the function of the probate court? How does one locate a reputable lawyer. What does a lawyer need to know to make a good will?

In this session more than almost any of the others, participants had much misinformation about wills, lawyers, the probate process, what a person can and cannot do with his property. For this and the other reasons given it was mandatory to have a lawyer on hand to inform and monitor the discussion, especially one who was familiar with wills and probate procedure.

Issues on the Use of Free Time

The position was taken that the essential starting point for any discussion of the use of free time was the individual's felt needs. Some of these needs are common to many people while others are specific to particular individuals.

Once individuals expressed such needs as the need to be useful, to be mentally alert in their later years, to have friends who cared what happened to them, and to be financially secure, it became possible to discuss solutions. Many techniques were used to highlight the alternatives: retired people told about their use of time, a librarian brought reading materials to the meeting and discussed the resources of the public library, an adult educator presented opportunities to learn in the community, a YMCA director presented his program, a scout leader encouraged the men to volunteer their skills, a city recreation director discussed the range of possibilities throughout the community, members of an activity center for older people gave first-hand experience, and so forth.

Two techniques for learning about alternate ways to satisfy personal needs for activity stand out as more effective than any of the others: 1) participants were encouraged to visit various opportunities for retirement activity, including opportunities to render volunteer service and to report to the class on their findings and 2) participants planned and conducted a "show and tell" kind of exhibit of their interests, activities, hobbies, or skills as part of the session on activity for the final summary session of the project. Actually in a group of 20 manual workers and their wives, it was not unusual to find a wide range of activities and interests some of which waited for expression until more time was available. Most of the men were working six days a week and some overtime each day at the time of the program. It was easy to understand, therefore, why frequently their first reaction to the questions of free time was that they were eager to have more of it in which they would have to do nothing. This hurdle was usually overcome by asking participants to put on the blackboard what they thought a typical weekday in retirement would look like and testing the contents of a typical day against needs of the individuals in the group.

Issues in the Utilization of Community Resources

The responsibility for adjustment in retirement should be shared by the individual and the community in which he lives. For this reason every effort was made to maximize contacts between the older workers in the program and leaders of community programs and services of special value to older people. It is axiomatic in the first place that the present generation of older people are not as aware of community resources as tomorrow's generation of older people will be, and today's older people sometimes have misgivings about using what community resources exist.

Two approaches were tested. One approach considered particular resources at that session when it was appropriate to do so, while the other approach was having an entire session devoted to all kinds of community resources--health, recreation, financial, housing, education, employment, counseling and religious. The conclusion was reached that it was more meaningful to use the former approach, i.e., to discuss the health resources during the discussion of health.

The Final Session

Although certain things can be expected to happen at the final session, it, like the first sessions, requires careful planning by the leader. Participants like to talk about their participation in the program and to tell what it meant to them. Almost without fail participants will say they are sorry the program is ending, and sometimes they take the initiative and make plans to continue relationships with others in the group after the meetings. Also, participants frequently express their pleasure on having made new friends in the program.

Thus the final session should be planned to achieve several purposes: 1) to reinforce decisions which participants have made in reference to retirement living, 2) to make it possible for participants to express their feelings about the program and the participants in it and 3) to encourage participants to continue their preparation for retirement.

In sum, the purpose of these short summaries was to convey the concepts and principles which guided the leadership in the conduct of the preretirement education programs, and at the same time to give a feeling for what it was like for the participants and the leader to become involved in the discussions. Issues were the focal point for discussion. Many of the issues were presented by the older workers; others were presented by resource persons or the discussion leader. In this regard, it was stated that the leaders shared responsibility for insuring that the maximum number of retirement issues came under scrutiny. It follows that leadership no matter how skilled it may be in group discussion techniques must have the additional skill of recognizing or presenting issues which are peculiar to older people about to retire. Not only must the leader know the issues, he must be in firm grasp of many alternative solutions. For this reason one of the outgrowths of the present research at The University of Michigan has been a major move in the direction of training leaders to conduct preretirement education programs.

Program Materials

In addition to examining the effects of participation in the preretirement education program a major purpose of the project was to develop and test program materials especially for use with manual workers and their wives. Six types of materials were developed for this purpose and tested in the preretirement education programs:

1. subject matter booklets
2. retirement readiness checklist
3. short stories
4. films
5. still pictures
6. manual for discussion leaders

Subject Matter Booklets

Eleven booklets were prepared for use in the experimental program, ten of them having to do with retirement subject matter, as follows:

1. Introduction to the Program
2. Work and Retirement
3. Good Health in Retirement
4. Mental Health in Retirement

5. Financial Planning for the Retirement Years
6. Earning Some Money in Retirement
7. Activity for the Retirement Years
8. Where to Live After Retirement
9. Legal Affairs of the Older Person
10. Family and Friends in the Later Years

The purpose of the subject matter booklets was to raise questions, and, rather than provide the answers, to supply a frame of reference by which the individual by himself or in conjunction with others could seek out the answers. Moreover, it was the intention of the booklets to expose older people to the gamut of retirement contingencies as revealed by gerontological research and practical experience. In this respect the booklets served as a substitute for a lengthy bibliography, and, of course, they were written in non-technical terms for manual workers, many of whom have no more than six to eight years of formal education.

Retirement Readiness Checklist

The position was taken that planning was a first step toward preparation for retirement, but by far the more important step was actually doing something about it. Therefore, the purpose of the retirement readiness checklist is to provide a list of important things to do before retirement and a handy way to check them off as they were completed.

The list of things to do was organized in five categories--income, health, activities, family and friends, and a place to live. Each category contained 10 items. The "family and friends" and "a place to live" categories had 5 items for married persons and 5 items for persons who were not married.

Members of the discussion programs were given the checklist at the end of the first session and encouraged to check off those things which had already been accomplished. Other checks could be added during the ten-week discussion program, and at the final session results were presented and discussed on a voluntary basis.

A maximum score of 10 was possible on three categories of activities, and 5 on the other 2 categories. Hence, a maximum total score of 40 was possible. A few members rejected completely the idea of checking up on themselves in this manner. Most of them, however, appeared to enjoy the exercise and wanted to talk about results. Care was taken to make clear in the discussion that these actions were only the initial ones in a long series of lifetime adaptations.

Short Stories

The series of ten two-page stories were based on case history material collected by the author and transformed into stories by collaboration with a professional writer. Their purpose, like the subject matter booklets, was to alert older people ahead of time to some of the situations which may happen after retirement. They differ from the subject matter booklets, however, both in content and method of presentation. The content deals largely with the feelings of retired people. The method is one of retired people telling their story.

After reading the stories, older workers and their wives were expected to ask themselves certain questions: How did it happen that the characters in the story found themselves in the circumstances they describe? How did they feel about it? How was the situation likely to turn out? If we (the worker and his wife) were faced with the same situation what would we do?

Taken as a group the short stories cover a wide range of human feelings and experiences:

THE FOURTH EVENT. This is an introduction to the series which encouraged people to face up squarely to things that are likely to happen after retirement.

IT'S NOT EASY TO SLEEP LATE. This story tells how a man and his wife reacted to the first day of retirement.

A COWBOY SUIT FOR TAD. This is an unlikely title for a story about a retired couple, but appropriate nonetheless. Tad is the grandson. His grandparents have a vigorous discussion about buying him a cowboy suit and how they are going to make ends meet now that they are retired.

ONE NICE SUNNY MORNING. The weather was all right, but Mr. Davis was not. It all happened suddenly. Mr. Davis felt sick one nice sunny morning on his way downtown. The story tells what he did about it.

TO BE PROUD, TO BE OLD. The hopelessness of a distraught wife and the tragedy of a proud man going to pieces doesn't make very pleasant reading. But because these things can and do happen to older people the position was taken that they should be discussed, especially in a preparation for retirement program where an attempt is made to take a realistic look at all possible aspects of retirement.

TIME: FRIEND OR FOE. Which is it? When a man retires he has much more time on his hands. How some older people felt about it and what they did are reported in this story.

OLD MAN MINICH KNOWS, OR DOES HE? Mr. Minich likes nothing better than spending his time talking about the good old days. How other people feel about it is another matter. The story raises a good many questions. Does Mr. Minich have a problem and is he likely to do anything about it?

THE EXPERIMENT IN LONELINESS. He was retired, a widower, and his children wanted him to come to Texas and live with them. He tried the arrangement and it failed. It is up to the reader to figure out why.

GOODBYE, GREEN KNOLLS. At first they thought Green Knolls was the perfect place to live their retirement years, but it didn't work out and they decided to move back home to Michigan. The question that the reader is almost certain to ask is whether the retired couple in this story could have prevented the mistake they made.

IT HAPPENED TO CARL BURNS. Carl Burns is a widower. This story compared life before and after the death of Carl's wife; and it raises the question of getting married again.

Thematic Films

There is no lack of films on various retirement subjects. The problem is that most of them are inadequate for use in a group discussion program. Existing films on aging are, for the most part, documentary. That is, they present a problem, analyze it carefully and suggest solutions, one or more of which may be documented by experiences of older people or others. It usually takes 20 to 30 minutes to present complete visual statements of this sort.

For these reasons and because existing films were not designed for use with manual workers, the project undertook to produce one silent and seven sound 16mm films on various themes, as follows:

*No. 1 How a retired man feels as he sits in the living room and gets in his wife's way.

*No. 2 The retired husband is sitting around the house doing nothing while his wife makes ready to have someone come in.

No. 3 Industrial shop scene and the pressure which an older worker feels trying to keep up on his job; how the younger workers feel about the older worker.

No. 4 Feelings which arise when an older man goes to live with his children.

No. 5 A situation in which an older man experiences symptoms of dizziness and pains in legs. Film emphasizes his reactions and those of his wife.

No. 6 A situation in which an older man and wife argue about the cost of a bag of groceries.

No. 7 How a worker feels on the last day on the job; reactions of the other workers.

No. 8 The 64th birthday and how a man and his wife react. This film was used in the introductory sessions.

Thematic Photographs

Designed along Thematic Apperception Test lines the purpose of the series of 20 photographs was to provoke group discussion. The special value in contrast with the film material, was that their content was somewhat more ambiguous, and they were easily used in the program whenever the

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*Film No. 1 was an experimental silent film done in pantomime. After testing No. 1 in the field the decision was made that it would be more effective to employ sound on the other films. Hence film No. 2 is a sound film similar in content to film No. 1.

discussion leader thought they would help to improve both the quantity and quality of the discussion. Here, then, is a short description of four of the photographs:

1. An older man is sitting and smoking his pipe in an easy chair in the corner of a living room. His pipes and can of tobacco are at hand. It appears some of the ashes from his pipe have fallen to the floor. A pile of newspapers lies at his feet. Standing to one side is a young woman wearing an apron. The older man and young woman are looking at each other. However, their expressions are neutral.

2. An older woman is sitting in an easy chair, with one hand and arm over a baby's crib which sets on a stool nearby. Standing at a door to her left is a young man and woman. The young man has his hand on the door knob. The young woman is wearing a coat. The young couple are looking down at the older woman without expression, and the older woman returns their gaze.

3. Three persons are standing against a blank wall, from left to right, an older woman, a young girl about six years of age and a younger woman. The child is looking up at the young woman who has her hand on the child's shoulder. The young woman is looking at the older woman who with hands clasped in front of her fails to return her gaze.

4. An older woman and man are sitting and reading on a front porch of what appears to be a modest home. Down in front among the shrubbery is a "For Sale" sign.

There was no scheduled use of the still pictures. Whenever the discussion leader thought one of them would help the discussion he would ask the group whether they would like to take a look at a picture. Each of three or four small groups of five to seven participants was given a copy of the picture. The instructions were as follows:

1. Who are the people in the picture?
2. What are they doing?
3. How do they feel about it?
4. How will it turn out? Please tell a story about the picture.

When it appeared that a lively discussion had been generated in each of the small groups the leader obtained their attention and asked them to share their reactions with people in the other groups. The participants usually forgot about the picture once the general discussion got under way.

Table 4 on the following page summarizes the kinds of reading and visual materials which were developed and their use in the preretirement program.

Discussion Leader's Manual

Notes were kept by the investigator on each of the discussion sessions conducted as part of the present research project. In addition, a co-discussion leader acted as an observer and kept notes of his reactions.

TABLE 4. A SUMMARY OF PROGRAM MATERIALS AND THEIR USE IN THE PRERETIREMENT EDUCATION PROGRAM

Topic	Booklets and short stories*	Films	Still pictures
Orientation	Introduction to the Program "The Fourth Event"	8	9,16
Work and retirement	Work and Retirement "It's Not Easy to Sleep Late"	3 7	18,19 20,21
Physical health	Good Health in Retirement "One Nice Sunny Morning"	5	10
Mental health	Mental Health in Retirement "To Be Proud, To Be Old" "Old Man Minich Knows, or Does He?"		11,17
Financial planning	Financial Planning for the Retirement Years Earning Some Money in Retirement "A Cowboy Suit for Tad"	6	12,14
Leisure time	Activity for the Retirement Years "Time: Friend or Foe"	1	4,6,8 13,15,22
Family, friends and living arrangements	Family and Friends in the Later Years Where to Live After Retirement "Experiment in Loneliness" "Goodbye, Green Knolls" "It Happened to Carl Burns"	2 4	1,2 3,5 7
Legal affairs of the older person	Legal Affairs of the Older Person		
Summary and graduation	A Retirement Readiness Checklist		

*Titles of the short stories are shown in quotation marks.

Hence there was available following the first series of programs considerable information about all aspects of conducting each of the sessions. The investigator was guided by this information in conducting subsequent programs along similar lines, at least in general terms. No two discussion groups behaved in the same fashion and different approaches had to be tried in order to stimulate involvement.

By the time the last program had been conducted materials had been mimeographed to assist other discussion leaders in promoting and developing the program, identifying special issues for discussion, opening and closing each of the sessions, using the reading and visual materials described above, selecting and making the best use of resource persons, using special techniques such as hobby shows, autobiographical presentations by retired persons and panels to promote a fuller understanding of the issues.

Availability of Materials

The widest possible distribution of all of the program materials was encouraged following the research project, and at this writing all of them are or will soon be available in a final format. The subject matter booklets, short stories and retirement readiness checklist were combined in a single volume (Hunter, 1968a). The thematic films may be rented or purchased through The University of Michigan Audio-Visual Education Center, 416 Fourth Street, Ann Arbor, Michigan 48103. The leader's manual (Hunter, 1968b) and a package containing the still pictures and a manual suggesting how they may be used are in press (Hunter, 1968c).

IV. Findings of the Study

Having developed preretirement education program materials including films, still pictures, short stories and a series of subject matter booklets, the purpose of the present study was then to study the immediate effects of participation of automobile workers and their wives in a group discussion type preretirement education program. Performance on seventeen indexes was the principal method for measuring program effect. Three of the indexes were intended to measure morale, life satisfaction and self-concept of age; others to measure attitudes toward retirement; four of the indexes measured specific attitudes toward health and income; and six of them measured preparation for retirement.

Methods of Analysis

Mean scores on the seventeen indexes were computed from data which were collected from the four panels of subjects prior to the program and again upon completion of the program three months later.

A test was applied to the mean scores in order to test the null hypothesis that there were no differences in mean scores of experimental and control subjects. In regard to this and the other tests of significance which were used in the study, it was decided to reject the null hypothesis if observed differences were in the desired direction and significant at the .05 or greater level.

The formula which was used to test the differences between mean scores was as follows:

$$t = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\left(\frac{\Sigma(X_1 - \overline{X}_1)^2 + \Sigma(X_2 - \overline{X}_2)^2}{N_1 + N_2 - 2}\right)\left(\frac{1}{N_1} + \frac{1}{N_2}\right)}}$$

where degrees of freedom = $N_1 + N_2 - 2$

Following the analysis of mean scores, a test was applied to the mean change scores of experimental and control subjects. The formula which was used to test the differences between mean change scores was as follows:

$$Z = \frac{\overline{X}_1 - \overline{X}_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

where X's = change scores

σ_1^2 = variance of change scores

Z = a normally distributed variable

Finally the experimental and control panels of workers were divided into subgroups based on race, birthplace, marital status, education, occupation, and income. Here the objective was to test the null hypothesis that there were no differences in mean scores and in mean change scores of experimental and control subjects in the subgroups. The formula which was used to compare the mean scores and the mean change scores of experimental and control subjects in the subgroups was as follows:

$$Z = \frac{(\overline{X}_1 - \overline{X}_2) - (\overline{X}_3 - \overline{X}_4)}{\sqrt{\left(\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2} + \frac{S_3^2}{N_3} + \frac{S_4^2}{N_4}\right)}}$$

where $\overline{X}$'s = mean score or mean change score,
S^2 = variance of the score or change score, Z is a normally distributed variable, and for example where $\overline{X}_1$ = mean scores of white experimental subjects, $\overline{X}_2$ = mean scores of white control subjects, $\overline{X}_3$ = mean scores of negro experimental subjects, and $\overline{X}_4$ = mean scores of negro control subjects.

When samples were small as a result of dividing the experimental and control subjects into subgroups the following formula was used to test differences:

$$Z = \frac{(\overline{X}_1 - \overline{X}_2) - (\overline{X}_3 - \overline{X}_4)}{\sqrt{\left(\frac{(N_1-1)S_1^2 + (N_2-1)S_2^2 + (N_3-1)S_3^2 + (N_4-1)S_4^2}{N_1 + N_2 + N_3 + N_4 - 4}\right)\left(\frac{1}{N_1} + \frac{1}{N_2} + \frac{1}{N_3} + \frac{1}{N_4}\right)}}$$

where degrees of freedom = $N_1 + N_2 + N_3 + N_4 - 4$

Attitudes of Subjects Before Participation in the Study

Basic characteristics of experimental and control panels of subjects such as age, education, birthplace, income and participation in organizations were compared in Chapter III. In this section a further comparison of experimental and control subjects will be made on the basis of attitudes and retirement readiness. How satisfied were they with life in general? Did they look forward to retirement or did they dislike the idea of retiring? How did they view their health? What was their attitude toward their present income and the income they expected to have after retirement? How well prepared were they for retirement? Answers to questions

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of these kinds are important not only as a basis for anticipating the kinds of self-selection which are likely to occur in future programs, but also as a baseline from which to assess results of the present research with automobile workers and their wives.

Satisfaction With Life in General

Attitudes toward life in general were indexed by asking the following questions:

1. All in all, how much happiness would you say you find in life today -- a good deal; some, but not very much; almost none?
2. In general, how would you say you feel most of the time -- in good spirits; in low spirits?
3. On the whole, how satisfied would you say you are with your way of life today -- very satisfied; fairly satisfied, not very satisfied; not satisfied at all?

Table 5 summarizes the subjects' attitudes toward life in general.

TABLE 5. ATTITUDES OF SUBJECTS TOWARD LIFE BEFORE PARTICIPATION IN THE STUDY

Attitudes of subjects toward life in general	Percent of total			
	Workers		Wives	
	Exp. (n-36)	Cont. (n-52)	Exp. (n-25)	Cont. (n-29)
1. Found a good deal of happiness	77.8%	80.8%	96.0%	75.9%
2. Felt in good spirits most of the time	91.7	90.4	96.0	75.9
3. Were very satisfied or fairly satisfied with life	91.6	94.3	96.0	96.5

Despite some differences between experimental and control wives it appears that the program attracted, for the most part, subjects who found a good deal of happiness in living, felt in good spirits most of the time and were either very satisfied or fairly satisfied with the way life was going.

Attitudes Toward Health

Two questions were asked to index how subjects felt about their health:

1. How do you rate your health at the present time -- very poor; poor; good; or excellent?
2. How often do you worry about your health -- often; sometimes; or hardly ever?

When asked to rate their health (see Table 6) a relatively small proportion of each panel of subjects considered themselves to be in poor health. Similarly, only a small proportion of the four groups of subjects worried to any extent over their health.

TABLE 6. ATTITUDES OF SUBJECTS TOWARD HEALTH BEFORE PARTICIPATION IN THE STUDY

Attitudes of subjects toward their health	Percent of total			
	Workers		Wives	
	Exp. (n-36)	Cont. (n-52)	Exp. (n-25)	Cont. (n-29)
1. Gave themselves a health rating of fair, good or excellent.	91.7%	86.5%	96.0%	82.7%
2. Worried about their health hardly ever or sometimes.	94.4	92.4	84.0	72.4

Attitudes Toward Income

Table 7 summarized responses to questions about income as follows: Do you consider your present income enough to meet your living expenses?

TABLE 7. ATTITUDES OF SUBJECTS TOWARD INCOME BEFORE PARTICIPATION IN THE STUDY

Attitudes of subjects toward income	Percent of total			
	Workers		Wives	
	Exp. (n-36)	Cont. (n-52)	Exp. (n-25)	Cont. (n-29)
1. Considered present income enough to meet expenses.	80.6%	75.0%	88.0%	75.9%
2. Expected retirement income would be adequate to meet expenses.	88.9	92.3	90.0	86.2
3. Worried about money matters hardly ever or sometimes.	86.1	88.5	80.0	82.4

How do you expect your retirement income to work out for you? How often do you worry about money matters? The four panels of subjects were able for the most part to meet expenses with present income and they expected retirement income to be sufficient. Positive attitudes toward income could be explained by the fact that these automobile workers at the time of the study had been earning overtime pay for many months. Indeed, many of them complained that they were tired out and wished they could work fewer hours despite the extra pay they were earning. Moreover the present study took place at a time when the United Automobile Workers International Union had just won increases in wages and pension benefits. This may also explain why so many workers and their wives responded to their union's invitation to discuss pension benefits and the possibility of their participating in the preretirement education research project. As might be expected, older workers and union leaders at these meetings expressed considerable satisfaction with and interest in the financial gains which had been achieved.

Attitudes Toward Retirement

It appears from the data presented in Table 8 that experimental and control workers before the present study were positively oriented toward retirement. For example, a majority of workers thought that retirement

TABLE 8. VARIOUS ATTITUDES OF SUBJECTS TOWARD RETIREMENT BEFORE PARTICIPATION IN THE STUDY

Attitudes toward retirement	Percent of total			
	Workers		Wives	
	Exp. (n-36)	Cont. (n-52)	Exp. (n-25)	Cont. (n-29)
1. Thought that retirement was generally good for a person	80.6%	88.5%	72.0%	75.9%
2. Looked forward to retirement[a]	72.2	80.8	60.0	62.1
3. Had a good idea of what his life would be like in retirement	55.6	59.6	60.0	55.2
4. Thought things would go very well or fairly well after retirement[a]	97.2	94.2	92.0	96.2
5. Expected to get used to retirement in less than six months[a]	66.6	57.7	72.0	65.5
6. Didn't expect to have trouble keeping busy after retirement[b]	91.7	82.7		
7. Considered himself (herself) to be very well or fairly well prepared for retirement	61.1	65.3	64.0	72.4
8. Never expected after retirement he would want to go back to work[a]	66.7	63.5	68.0	55.2
9. Looked forward to having husband at home every day instead of working			56.0	55.2
10. Considered husband to be prepared for retirement			84.0	62.0
11. Believed husband would be as happy or happier after retirement			72.0	79.3

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[a] Wives were asked to respond in terms of their husbands rather than themselves.
[b] Question not asked of wives.

was mostly good for a person (item 1); most of the workers looked forward to retirement (item 2); most of them thought things would go well after retirement (item 4); and, most of them expected to have little trouble keeping busy after they retired (item 6). Similarly, a large proportion of workers said that they had a good idea of what life would be like in retirement (item 3); they expected to get used to retirement in a relatively short period of time (item 5); and, they considered themselves fairly well prepared for retirement.

Experimental and control wives, like their husbands, were positively oriented toward retirement. However, they may have had some reservations initially about having their husbands home all day instead of at work (item 9); about retirement being good for a person (item 1); and about their husbands looking forward to retirement (item 2). Despite these reservations almost all of them though things would go well after the retirement of their husbands (item 4) and large proportions of them considered their husbands to be well prepared for retirement (item 10). It is also noteworthy that a majority of the wives thought their husbands would be as happy or happier after retirement.

In sum, a comparison of the four study groups indicates that they were composed, for the most part, of men and women who judged themselves to be happy, in good spirits most of the time and fairly well satisfied with life in general. These fundamental attitudes toward themselves found expression in other positive attitudes: they gave themselves a relatively good health rating; most of them were not concerned about making ends meet before or after they retired; they looked forward to retirement and once they became retired they did not anticipate much of a problem adjusting to a new way of life. Moreover, the wives of experimental and control subjects were not overly concerned about their husbands' retirement. As a matter of fact a majority of wives expected their husbands to be happy after retirement.

It was apparent to the staff of the research project both during the preretirement education programs with experimental subjects and in the homes of control subjects, where interviews were conducted before and after the program, that subjects in general were contented, happy persons who were confident of their ability to make satisfactory adjustment to retirement. Why then would people of these kinds volunteer to participate in the program? The reasons which experimental subjects gave were that they wanted to obtain information about their pensions or some other aspect of retirement such as a good place to live, that they wanted to see what other automobile families were thinking about, or simply that they were curious about the program. Control subjects gave many of the same reasons for participating in the research project despite the fact that interviewers were not permitted to counsel the control subject, give him specific information about pensions or discuss problems or situations the subject was concerned about. Of course, there was not much that could be done about the fact that interviewers often had to listen at length to control subjects who insisted on telling their story. Not to have been willing to listen might have jeopardized the opportunity to return for a second interview.

Thus it appears that experimental and control subjects were similarly motivated to be a part of the research project, and that they were similar in their attitudes toward life in general and retirement specifically. Unfortunately data are not available to support or reject the hypothesis which is suggested by the present study, namely, that volunteers in preretirement education programs are most likely to be those older people who have high morale, who anticipate retirement and expect to make a satisfactory adjustment to it. Thus in any future study of preretirement education it is proposed that as much attention be paid to those who refuse to take part in the program as those who volunteer to participate.

Performance on 17 Indexes Before the Program

The mean scores which experimental and control workers achieved on the 17 indexes before the program are summarized in Table 9 on the next page. Although there were apparent differences between experimental and control workers only two of these differences were statistically significant -- control workers had a significantly higher mean score on the life satisfaction index while experimental workers had a significantly higher mean score on Preparation for Retirement Index A. The conclusion which the comparison in Table 9 suggests is that before the program, experimental and control workers were very much alike in their attitudes toward retirement, health, income and their readiness for retirement (see Preparation for Retirement Index B).

TABLE 9. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF THEIR MEAN SCORES ON THE VARIOUS INDEXES BEFORE THE PROGRAM

Category, number and name of index[a]	Number[a] of Items	Scoring[a] System (+ or -)	Pre-program Mean Scores			t value	Sig.
			Exp. (n-36)	Cont. (n-52)	M_E-M_C		
I General Attitude Toward Life							
1. Satisfaction with life	3	+	1.083	1.385	-.302	-2.117	.05
2. Morale	7	+	3.389	3.712	-.323	-1.115	
II Age Concept							
3. Self-concept of age	1	+	.694	.692	.002	.021	
III Attitude Toward Retirement							
4. Attitude toward retirement	4	+	1.444	1.577	-.133	-1.008	
5. Preconception of retirement	2	+	1.417	1.365	.052	.459	
6. Anticipated adjustment to retirement	2	+	.861	.885	-.024	-.135	
7. Anticipated dissatisfaction with retirement	4	-	1.278	1.269	.009	.038	
IV Attitude Toward Health							
8. Self-appraisal of health	4	+	1.806	1.923	-.117	-.653	
9. Worry about health	1	-	.556	.538	.018	.157	
V Attitude Toward Income							
10. Attitude toward present income	3	+	1.583	1.712	-.129	-.978	
11. Attitude toward retirement income	1	+	.556	.577	-.021	-.197	
VI Attitude Toward Job							
12. Attitude toward job	6	+	4.857	4.654	.201	.724	
VII Preparation for Retirement							
13. Retirement planning propensity	3	+	.556	.538	.018	.144	
14. Plans for retirement	1	+	.472	.423	.049	.452	
15. Preparation for retirement index A	12	+	4.250	2.878	1.372	2.985	.01
16. Preparation for retirement index B	20	+	11.500	11.288	.212	.281	
17. Readiness for retirement	1	+	.611	.654	.093	-.405	

[a] For further information about indexes and scoring system see Table 3 and Appendix 2.

The data presented in Table 10 indicate that experimental wives had significantly higher mean scores on four indexes -- self-appraisal of health, attitude toward retirement income, and preparation for retirement indexes A and B while control wives had a significantly higher mean score on attitude toward present income. Thus at the beginning of the study it appears that there were fewer differences between the two groups of workers than between the two groups of wives as measured by their responses on various indexes.

TABLE 10. EXPERIMENTAL AND CONTROL WIVES COMPARED ON THE BASIS OF THEIR MEAN SCORES ON THE VARIOUS INDEXES BEFORE THE PROGRAM

Category, number and name of index[a]	Number[a] of Items	Scoring[a] System (+ or -)	Pre-program Mean Scores Exp. (n-25)	Cont. (n-29)	M_E-M_C	t value	Sig.
I General Attitude Toward Life							
1. Satisfaction with life	3	+	1.600	1.448	.152	.916	
2. Morale	7	+	4.640	3.966	.674	1.492	
II Age Concept							
3. Self-concept of age	1	+	1.000	.931	.069	.000	
III Attitude Toward Retirement							
4. Attitude toward retirement	4	+	1.640	1.552	.088	.434	
5. Preconception of retirement	2	+	1.320	1.310	.010	.069	
6. Anticipated adjustment to retirement[b]	2	+					
7. Anticipated dissatisfaction with retirement	4	-	1.240	1.172	.068	.226	
IV Attitude Toward Health							
8. Self-appraisal of health	4	+	2.120	1.621	.499	3.157	.01
9. Worry about health	1	-	.600	.552	.048	.351	
V Attitude Toward Income							
10. Attitude toward present income	3	+	1.240	1.759	-.519	-3.242	.01
11. Attitude toward retirement income	1	+	.800	.483	.317	2.500	.02
VI Attitude Toward Job							
12. Attitude toward job[b]	6	+					
VII Preparation for Retirement							
13. Retirement planning propensity	3	+	.520	.517	.003	.017	
14. Plans for retirement	1	+	.320	.414	-.094	-.702	
15. Preparation for retirement index A	12	+	5.042	2.862	2.180	3.287	.01
16. Preparation for retirement index B	20	+	12.000	9.207	2.793	2.977	.01
17. Readiness for retirement	1	+	.640	.724	-.084	-.654	

[a] For further information about indexes and scoring system see Table 3 and Appendix 2.

[b] Indexes 6 and 12 were not administered to the wives.

Effect of the Program on the Workers

To investigate the effects of participation in a preretirement education program on a group of automobile workers, the wives of automobile workers and six subgroups of automobile workers based on race, birthplace,

TABLE 11. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF THEIR MEAN SCORES ON THE VARIOUS INDEXES AFTER THE PROGRAM

Category, mmber and name of index[a]	Number[a] of Items	Scoring[a] System (+ or -)	Post-program Mean Scores				
			Exp. (n-36)	Cont. (n-52)	M_E-M_C	t value	Sig.
I General Attitude Toward Life							
1. Satisfaction with life	3	+	1.361	1.519	-.158	1.345	
2. Morale	7	+	3.111	3.308	-.197	.655	
II Age Concept							
3. Self-concept of age	1	+	.083	.038	.045	.888	
III Attitude Toward Retirement							
4. Attitude toward retirement	4	+	1.417	1.346	.071	.529	
5. Preconception of retirement	2	+	1.222	1.250	-.028	.266	
6. Anticipated adjustment to retirement	2	+	1.056	.981	.075	.410	
7. Anticipated dissatisfaction with retirement	4	-	1.361	1.269	.092	.404	
IV Attitude Toward Health							
8. Self-appraisal of health	4	+	1.944	1.942	.002	.013	
9. Worry about health	1	-	.528	.519	.009	.078	
V Attitude Toward Income							
10. Attitude toward present income	3	+	1.389	1.654	-.265	2.399	.05
11. Attitude toward retirement income	1	+	.611	.596	.015	.139	
VI Attitude Toward Job							
12. Attitude toward job	6	+	5.061	5.143	-.082	.353	
VII Preparation for Retirement							
13. Retirement planning propensity	3	+	.278	.558	-.280	2.346	.05
14. Plans for retirement	1	+	.139	.346	-.207	2.211	.05
15. Preparation for retirement index A	12	+	5.600	3.404	2.196	4.081	.001
16. Preparation for retirement index B	20	+	14.111	12.538	1.573	1.973	.05
17. Readiness for retirement	1	+	.778	.731	.047	.496	

[a] For further information about indexes and scoring system see Table 3 and Appendix 2.

marital status, education, occupation and income, null hypotheses, as stated previously, were established in reference to mean scores and mean change scores on 17 indexes.

The results of statistical tests of the differences in the post-program mean scores of experimental and control workers on the 17 indexes are presented in Table 11 on the preceeding page. Differences between the mean scores of experimental and control workers were significant at the .05 or greater level on five of the seventeen measures, namely, attitude toward present income (#10), retirement planning propensity (#13), plans for retirement (#14), preparation for retirement index A (#15) and preparation for retirement index B (#16). A comparison of mean scores for the five indexes shows, however, that higher mean scores were achieved by experimental subjects on only two of the indexes -- preparation for retirement indexes A and B (#15, #16).*

On the basis of these data it appears that participation of the workers in a preretirement education program did not significantly change their attitudes toward life in general, their attitudes toward retirement, or their attitudes toward their health or income but it may have had a significant effect on their preparation for retirement.

It was presumed that a test of the differences between mean change scores of experimental and control subjects was a more sensitive test of program effects, taking into account as it does differences between pretest and posttest scores (see Table 12). Here, as in the previous analysis of

TABLE 12. THE SIGNIFICANCE OF DIFFERENCES IN MEAN CHANGE SCORES ON SEVENTEEN INDEXES ADMINISTERED TO EXPERIMENTAL AND CONTROL WORKERS BEFORE AND AFTER THE PROGRAM

Reference number of index	Scoring system (+ or -)	Experimental workers (n-36)		Control workers (n-52)		Z value	Sig.
		mean difference	standard deviation	mean difference	standard deviation		
1	+	.278	.701	.135	.768	.905	
2	+	- .278	1.233	- .404	1.524	.424	
3	+	- .028	.506	.038	.484	.611	
4	+	- .028	1.000	- .231	.757	1.030	
5	+	- .194	.668	- .115	.646	.552	
6	+	.194	.710	.096	.891	.573	
7	-	.083	1.156	.0	1.188	.328	
8	+	.139	.867	.019	.896	.631	
9	-	- .028	.446	- .019	.542	.085	
10	+	- .194	.577	- .058	.639	1.038	
11	+	.056	.532	.019	.542	.319	
12	+	.273	.876	.469	.981	.956	
13[a]	+	- .278	.779	.019	.700	1.833	.10
14[b]	+	- .333	.535	- .077	.589	2.116	.05
15[c]	+	1.343	2.413	.388	2.820	1.667	.10
16[d]	+	2.611	3.842	1.250	2.923	1.778	.10
17	+	.167	.447	.077	.479	.900	

[a] Retirement Planning Propensity

[b] Plans for Retirement

[c] Preparation for Retirement Index A

[d] Preparation for Retirement Index B

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*Preparation for retirement index B tends to cover more specific kinds of preparation than does preparation for retirement index A.

mean scores, it will be noted that differences are to be found principally in the preparation for retirement category of indexes. Only the differences shown for indexes 15 and 16, however, were in favor of experimental subjects.

TABLE 13. EXPERIMENTAL AND CONTROL WIVES COMPARED ON THE BASIS OF THEIR MEAN SCORES ON THE VARIOUS INDEXES AFTER THE PROGRAM

Category, number and name of index[a]	Number[a] of Items	Scoring[a] System (+ or -)	Post-program Mean Scores			t value	Sig.
			Exp. (n-25)	Cont. (n-29)	M_E-M_C		
I General Attitude Toward Life							
1. Satisfaction with life	3	+	1.600	1.310	.290	1.624	
2. Morale	7	+	3.760	3.379	.381	1.019	
II Age Concept							
3. Self-concept of age	1	+	.960	.897	.063	.878	
III Attitude Toward Retirement							
4. Attitude toward retirement	4	+	1.160	1.345	-.185	1.309	
5. Preconception of retirement	2	+	1.200	1.103	.097	.780	
6. Anticipated adjustment to retirement[b]	2	+					
7. Anticipated dissatisfaction with retirement	4	-	1.200	1.069	.131	.481	
IV Attitude Toward Health							
8. Self-appraisal of health	4	+	1.960	2.138	-.178	.915	
9. Worry about health	1	-	.720	.690	.030	.239	
V Attitude Toward Income							
10. Attitude toward present income	3	+	1.600	1.724	-.124	.778	
11. Attitude toward retirement income	1	+	.520	.586	-.066	.480	
VI Attitude Toward Job							
12. Attitude toward job[b]	6	+					
VII Preparation for Retirement							
13. Retirement planning propensity	3	+	.400	.621	-.221	1.628	
14. Plans for retirement	1	+	.200	.483	-.283	2.228	.05
15. Preparation for retirement index A	12	+	5.480	3.103	2.377	3.694	.001
16. Preparation for retirement index B	20	+	14.280	11.621	2.659	2.358	.05
17. Readiness for retirement	1	+	.680	.793	-.113	.936	

[a] For further information about indexes and scoring system see Table 3 and Appendix 2.

[b] Indexes 6 and 12 were not administered to the wives.

In sum, these data suggest that although it was not possible to reject the null hypothesis based on mean change scores, findings were in the expected direction within the area of preparation for retirement.

This result is not so surprising when it is recalled that workers in the present study scored relatively high before taking part in the study on all of the life satisfaction and attitudinal measures. Moreover, these results are consistent with results from previous preretirement education research where it has been shown that attitudinal change was much more difficult to achieve than change in information acquired and preparation for retirement (Burgess, 1960; Mack, 1958; Hunter, 1957).

Effect of the Program on the Wives

Table 13 on the preceeding page shows that the wives, like the workers, achieved significantly higher mean scores on preparation for retirement Indexes 15 and 16.

The analysis of mean change scores of experimental and control wives (see Table 14) indicates that the program was effective in improving the

TABLE 14. THE SIGNIFICANCE OF DIFFERENCES IN MEAN CHANGE SCORES ON FIFTEEN INDEXES ADMINISTERED TO EXPERIMENTAL AND CONTROL WIVES BEFORE AND AFTER THE PROGRAM

Reference number of index	Scoring system (+ or -)	Experimental wives (n-25)		Control wives (n-29)		Z value	Sig.
		mean difference	standard deviation	mean difference	standard deviation		
1	+	.0	.500	- .138	.581	.939	
2	+	- .880	.971	- .586	1.296	.951	
3	+	- .040	.200	- .034	.421	.007	
4	+	- .480	.918	- .207	.940	1.079	
5	+	- .120	.526	- .207	.491	.626	
6[a]	+						
7	-	- .040	.935	- .103	1.113	.226	
8[b]	+	- .160	.746	.517	.829	3.164	.01
9	-	.120	.440	.138	.441	.150	
10[c]	+	.360	.757	- .034	.499	2.213	.05
11[d]	+	- .280	.458	.103	.489	2.969	.01
12[a]	+						
13	+	- .120	.600	.103	.557	1.411	
14	+	- .120	.526	.009	.458	1.400	
15	+	.438	3.283	.241	1.806	.290	
16	+	2.280	4.159	2.414	4.040	.110	
17	+	.040	.351	.069	.258	.341	

[a] Not administered to wives
[b] Self-Appraisal of Health
[c] Attitude Toward Present Income
[d] Attitude Toward Retirement Income

experimental wives' appraisal of their health and their attitude toward retirement income (the difference shown for item 10 was in favor of the control wives). Significant differences in favor of experimental wives on preparation for retirement indexes 15 and 16 were not sustained in the analysis of mean change scores.

Effect of the Program on Subgroups of Workers

Table 15 presents the results of testing the effects of participation in a preretirement education program by subgroups of the workers using

TABLE 15. THE SIGNIFICANCE OF DIFFERENCES IN MEAN SCORES ON SEVENTEEN INDEXES ADMINISTERED TO SUBGROUPS OF EXPERIMENTAL AND CONTROL WORKERS BEFORE AND AFTER THE PROGRAM

Index number	Z values based on posttest mean scores[a]							
	White vs. negro[b]	English vs. non-Eng. birth-place[c]	Married vs. not married[b]	High vs. low educ.[d]	Skilled vs. not skilled[e]	High vs. low income[b,f]	High vs. med. & low income[b,f]	High & med. vs. low income[b,f]
1	-1.320	- .543	.769	.878	- .124	-(2.787)	-(2.300)	-(2.170)
2	-1.280	1.031	.927	- .744	.399	- 1.905	- 1.529	-(2.390)
3	.869	- .448	.984	- 1.042	.925	- 1.326	- 1.860	- .972
4	- .325	1.816	1.270	- 1.212	-1.277	- 1.759	- 1.180	- .052
5	.434	.926	.731	- .189	.160	- 1.966	1.638	1.350
6	.159	.646	.638	1.026	-1.000	.160	.305	- .238
7	.638	1.066	.350	-(2.511)	- .306	1.076	.558	.886
8	-1.000	.169	- .450	1.012	- .019	.282	1.100	- 1.928
9	1.880	.135	-1.330	- .773	.105	- .551	- .880	.454
10	.530	- .766	.282	- .405	-1.090	.113	.085	- .003
11	-1.018	.366	.383	- .086	- .925	1.320	1.560	.108
12	.255	(5.032)[g]	1.400	.890	1.919	.926	.854	.444
13	.481	1.834	1.156	- 1.360	- .530	- 1.775	.175	.151
14	- .327	- 1.778	.715	- .554	.298	1.255	1.640	.223
15	.421	.066	.735	1.030	1.030	.638	1.466	-(2.290)
16	.202	.455	.616	.406	.285	.330	.092	.332
17	-1.630	.386	.179	.886	.376	.331	- .066	.740

[a] With the exception of indexes 7 and 9 which were scored negatively, results favor the first group in the listing, i.e., white, English, married, etc., when the sign is plus; the second group, i.e., negro, non-English, not married, etc. when the sign is minus. See Appendix 1, Tables 53 through 60 for tabulation of all mean scores.

[b] Z values were computed using the formula for small samples given on page

[c] Workers who were born in an English speaking country were compared with workers who were born in a non-English speaking country.

[d] Workers who completed less than 8 grades in school were compared with workers who completed 8 or more grades.

[e] Skilled and semi-skilled workers were compared with unskilled workers.

[f] Low income = less than $5,000 annual income
medium income = $5,000 - $6,999
high income = $7,000 or more

[g] Z values shown in parentheses are significant at the .05 or greater level of confidence.

mean scores on the 17 indexes. The seven differences which are shown in parentheses are significant at the .05 or greater level. However, the null hypothesis was not rejected because only one of the significant differences was in the desired direction and as many as seven significant differences could have occurred by chance among the 136 tests which were made.

The analysis of mean change scores which is presented in Table 16 resulted in 11 differences which were significant at the .05 or greater level of confidence, all but three of which were observed in the subgroups based on marital status and income, as follows:

1. Married subjects who took part in the program achieved signifi-

TABLE 16. THE SIGNIFICANCE OF DIFFERENCES IN MEAN CHANGE SCORES ON SEVENTEEN INDEXES ADMINISTERED TO SUBGROUPS OF EXPERIMENTAL AND CONTROL WORKERS BEFORE AND AFTER THE PROGRAM

Index number	Z values based on mean change scores[a]							
	White vs. negro[b]	English vs. non-Eng. birthplace[c]	Married vs. not married[b]	High vs. low educ.[d]	Skilled vs. not skilled[e]	High vs. low income[b,f]	High vs. med. & low income[b,f]	High & med. vs. low income[b,f]
1	.344	- 1.901	(2.370)	(2.211)	.265	-1.635	- 1.057	- 1.910
2	.420	- .530	1.858	.345	.520	- .972	.143	(3.460)
3	1.964	-(2.08)[g]	(2.600)	1.079	.068	.671	1.260	- 1.692
4	- .923	(2.114)	.715	- .633	.352	- .922	.926	- .024
5	.323	.776	- .042	- .012	- .126	.049	.478	1.625
6	1.224	- .365	- .230	.412	- .869	1.650	(2.211)	1.519
7	.290	.546	.093	- 1.185	.190	1.420	1.402	.824
8	.701	- .506	- .511	.241	.715	.581	.817	- .369
9	.606	.067	- 1.946	- .405	- .223	.518	.857	.272
10	-1.110	.748	(2.110)	- .007	.385	- .028	.075	.403
11	- .752	.673	1.540	.195	-1.674	1.086	.831	.897
12	1.518	.924	(2.180)	- 1.176	-1.105	- .332	- .507	.619
13	.937	.728	.908	- 1.136	- .460	1.625	(2.420)	1.166
14	.302	.728	- .213	.532	- .090	1.400	(2.800)	1.185
15	.218	.732	.794	- .097	- .604	- .676	.437	- 1.076
16	-1.240	.157	.589	.888	1.390	- .320	.124	- .776
17	- .884	.140	.035	- .034	1.066	- .333	- .017	- 1.888

[a] With the exception of indexes 7 and 9 which were scored negatively, results favor the first group in the listing, i.e., white, English, married, etc., when the sign is plus; the second group, i.e., negro, non-English, not married, etc. when the sign is minus. See Appendix 1, Tables 53 through 60 for tabulation of all mean scores.

[b] Z values were computed using the formula for small samples given on page

[c] Workers who were born in an English speaking country were compared with workers who were born in a non-English speaking country.

[d] Workers who completed less than 8 grades in school were compared with workers who completed 8 or more grades.

[e] Skilled and semi-skilled workers were compared with unskilled workers.

[f] Low income = less than $5,000 annual income
medium income = $5,000 - $6,999
high income = $7,000 or more

[g] Z values shown in parentheses are significant at the .05 or greater level of confidence.

cantly larger mean change scores on indexes which measured life satisfaction, self-concept of age, attitude toward present income, and attitude toward job than subjects who were not married; and,

2. "High" income subjects who participated in the program achieved significantly larger mean change scores on indexes which measured anticipated adjustment to retirement, retirement planning propensity, plans made for retirement, and morale than "low" or "medium" income subjects.

Thus it appears that the results favored married subjects and subjects who comprised the "high" income group.

TABLE 17. EXPERIMENTAL WORKERS AND WIVES COMPARED ON THE BASIS OF THEIR PRE AND POSTTEST MEAN SCORES ON FIFTEEN INDEXES

Category, number and name of index	Before the program[b] t values	Before the program[b] Sig.	After the program[c] t values	After the program[c] Sig.
I General Attitude Toward Life				
1 Satisfaction With Life	3.346	.01	1.564	
2 Morale	3.284	.01	1.895	
II Age Concept				
3 Self-Concept of Age	.000		2.891	.01
III Attitude Toward Retirement				
4 Attitude Toward Retirement	1.118		1.779	
5 Preconception of Retirement	.669		.205	
6 Anticipated Adjustment to Retirement[a]				
7 Anticipated Dissatisfaction With Retirement	.137		.670	
IV Attitude Toward Health				
8 Self-Appraisal of Health	1.686		.089	
9 Worry About Health	.340		1.515	
V Attitude Toward Income				
10 Attitude Toward Present Income	2.098	.05	1.374	
11 Attitude Toward Retirement Income	2.009	.05	.699	
VI Attitude Toward Job				
12 Attitude Toward Job[a]				
VII Preparation for Retirement				
13 Retirement Planning Propensity	.228		.924	
14 Plans for Retirement	1.183		.626	
15 Preparation for Retirement Index A	1.213		.206	
16 Preparation for Retirement Index B	.512		.176	
17 Readiness for Retirement	.225		.845	

[a] Not administered to wives

[b] See Table 61, Appendix 1

[c] See Table 62, Appendix 1

A Comparison of Attitudes of Workers and Wives

The purpose of this section is to compare the attitudes toward retirement of the workers and wives who took part in the study. Twenty-five wives attended the preretirement education program with their husbands and twenty-five wives of control subjects agreed to take part in the study and be interviewed in their homes.

Table 17 on the preceeding page summarizes the statistical comparison of mean scores of experimental workers and wives on the 15 indexes used to measure attitudes toward and preparation for retirement. Before participation in the preretirement education program, it appears that experimental husbands and wives differed significantly with respect to four of the indexes: 1) satisfaction with life, 2) morale, 3) attitude toward present income, and 4) attitude toward retirement income (see Table 61 in Appendix 1 where it is shown that the experimental wives achieved significantly higher mean scores on satisfaction with life, morale and attitude toward retirement income while the workers scored significantly higher than the wives on attitude toward present income).

Postprogram results presented in Table 17 indicate that none of the four differences between experimental workers and wives persisted following the program.

It appears from the data in Table 18 on the following page that control workers and wives differed significantly only in two respects (#3 and #16) on the pretest; and, as in the case of experimental workers and wives, differences did not persist on the posttest.

In summary, it appears that the husbands and wives who comprised the experimental and control panels of subjects tended to develop increasingly similar orientations toward retirement during the four month period between the pre and posttests. Participation in the preretirement education programs and the interviews might account for the convergence of attitudes among experimental and control subjects respectively.

Effect of the Program on the Attitudes of the Wives Toward Their Husbands' Retirement

It was presumed that participation in the preretirement education program would change the attitudes of the wives toward their husbands' retirement. To test the null hypothesis that there were no differences between the two groups of wives following the participation of one of them in a preretirement program, eleven questions were asked of the wives at the beginning and again at the completion of the program, as follows:

1. Do you look forward to the time when your husband will stop working and retire or in general do you dislike the idea of his retiring? (Preferred response: look forward to it)
2. If it were up to you alone, would you have your husband continue working? (Preferred response: have him stop)
3. In general how do you think things will go after your husband's retirement? (Preferred response: very well or fairly well)

TABLE 18. CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF THEIR PRE AND POSTTEST MEAN SCORES ON FIFTEEN INDEXES

Category, number and name of index	Pretest[b]		Posttest[c]	
	t values	Sig.	t values	Sig.
I General Attitude Toward Life				
1 Satisfaction With Life	.410		1.536	
2 Morale	.748		.217	
II Age Concept				
3 Self-Concept of Age	2.545	.02	1.769	
III Attitude Toward Retirement				
4 Attitude Toward Retirement	.166		.010	
5 Preconception of Retirement	.494		1.243	
6 Anticipated Adjustment to Retirement[a]				
7 Anticipated Dissatisfaction With Retirement	.395		.783	
IV Attitude Toward Health				
8 Self-Appraisal of Health	1.700		1.038	
9 Worry About Health	.113		1.492	
V Attitude Toward Income				
10 Attitude Toward Present Income	.354		.609	
11 Attitude Toward Retirement Income	.809		.086	
VI Attitude Toward Job				
12 Attitude Toward Job[a]				
VII Preparation for Retirement				
13 Retirement Planning Propensity	.329		.516	
14 Plans for Retirement	.080		1.202	
15 Preparation for Retirement Index A	.033		.507	
16 Preparation for Retirement Index B	2.779	.01	.997	
17 Readiness for Retirement	.643		.617	

[a] Not administered to wives
[b] See Table 63, Appendix 1
[c] See Table 64, Appendix 1

4. How do you feel about having your husband at home instead of going to work every day? (Preferred response: like the idea)

5. How well prepared is your husband for retirement? (Preferred response: very well or fairly well)

6. How do you think your husband will get along in retirement? (Preferred response: very well or fairly well)

7. How long do you think it will take your husband to get used to retirement? (Preferred response: less than 6 months)

8. Do you think your husband will be happier, the same or less happy after he retires? (Preferred response: happier or the same)

9. After your husband retires how often will he want to go back to work? (Preferred response: hardly ever or never)

10. After your husband retires how often will he worry about not having a job to do? (Preferred response: hardly ever or never)

11. After your husband retires how often will he miss being with the other people at work? (Preferred response: hardly ever or never)

The results of comparing the proportions of experimental wives who gave the preferred responses with the proportions of control wives who gave the preferred responses before and after the program (see Table 19) do not make it possible to reject the null hypothesis.

TABLE 19. A SUMMARY OF THE ATTITUDES OF WIVES TOWARD THEIR HUSBANDS' RETIREMENT

No.	Preferred response[a]	Number and percent of total subjects								Z value	Sig.
		Pretest				Posttest					
		Experimental		Control		Experimental		Control			
		No.	%	No.	%	No.	%	No.	%		
1	Looked forward to husbands' retirement	15	60.0%	18	62.1%	13	52.0%	19	65.5%	.469	
2	Prefers to have husband stop working	19	76.0	20	69.0	17	68.0	18	62.1	.052	
3	Expects things to go well	23	92.0	25	86.2	24	96.0	24	82.8	- .685	
4	Likes idea of having husband at home	14	56.0	16	55.2	16	64.0	18	62.1	- .453	
5	Thinks husband is well prepared for retirement	21	84.0	18	62.0	18	72.0	21	72.4	1.150	
6	Thinks husband will get along well in retirement	20	80.0	19	65.5	21	84.0	18	62.0	- .389	
7	Thinks husband will adjust in short time	18	72.0	19	65.6	15	60.0	17	58.5	.219	
8	Thinks husband will be as happy or happier	18	72.0	23	79.3	23	92.0	24	82.7	-1.064	
9	Husband will not want to go back to work	17	68.0	16	55.2	16	64.0	19	65.5	.622	
10	Husband will not worry about giving up job	13	52.0	13	44.8	14	56.0	17	58.6	.373	
11	Husband will not miss people at work	11	44.0	11	37.9	8	32.0	12	41.4	.515	

[a] Numbers and proportions of subjects who made the preferred and other responses are presented in Tables 65 to 75, Appendix 1.

The formula which was used to compute Z values shown in Table 19 on the preceeding page is as follows:

$$Z = \frac{(P_1 - P_2) - (P_3 - P_4)}{\sqrt{\left(\frac{P_1Q_1}{N_1} + \frac{P_2Q_2}{N_2} + \frac{P_3Q_3}{N_3} + \frac{P_4Q_4}{N_4}\right)}}$$

where P_1 = proportion of experimental wives on the pretest
P_2 = proportion of experimental wives on the posttest
P_3 = proportion of control wives on the pretest
P_4 = proportion of control wives on the posttest
Q = $1 - P$

As might be expected from earlier analysis of the attitudes of the wives, the data in Table 19 indicate that the four groups of wives looked forward to their husbands' retirement (items 1,2), thought that their husbands were well prepared for retirement (experimental wives became less sure of their husbands' readiness for and adjustment to retirement, however, after participation in the preretirement education program - items 5,6,7); and a majority of the wives thought that their husbands would be as happy or happier after retirement.

On the other hand, relatively smaller proportions of experimental and control wives thought it was a good idea to have their husbands home all day instead of at work, and half or more of the wives expected after retirement that their husbands would worry about giving up their job and that they would miss the people at work.

Reaction of Experimental Subjects to the Preretirement Education Discussion Program

Upon completion of the preretirement education programs experimental workers and wives were asked what they liked or disliked about the program, how the program helped them prepare for retirement, what their reactions were to the materials used in the program and whether in general it was worthwhile for themselves and other automobile families to attend.

The one thing which workers and wives liked best about the program is summarized in Table 20. It appears that both husbands and wives appreciated most the opportunity afforded by the program to obtain information and ideas for use in preparing for retirement, to exchange views with other participants, to listen to others, and to learn what others were thinking and doing about retirement.

TABLE 20. THE ONE THING LIKED BEST ABOUT THE PROGRAM

Thing liked best	Percent of total	
	Workers (n-36)	Wives (n-25)
Obtaining information or ideas for planning or action	25.0	28.0
Some positive aspect of group discussion (exchanging views, listening to others)	13.9	28.0
Some positive comment about content of program	16.7	
Some positive aspect of membership	8.3	4.0
General positive comment (very good, helpful)	8.3	4.0
Some positive aspect of leadership	2.8	4.0
Other response	2.8	
Liked everything	11.1	20.0
No information	11.1	12.0
Totals	100.0	100.0

The one thing which experimental subjects liked least about the program is shown in Table 21. Workers expressed dislikes for the program

TABLE 21. THE ONE THING LIKED LEAST ABOUT THE PROGRAM

Thing liked least	Percent of total	
	Workers (n-36)	Wives (n-25)
Disliked nothing	36.1	48.0
Negative behavior of members	11.1	12.0
Not enough meetings	8.3	16.0
Negative aspect of program content	8.3	
Negative aspect of leadership	5.6	4.0
Other things disliked	5.6	
No information	25.0	20.0
Totals	100.0	100.0

in larger proportions than did the wives. The dislike which was common to workers and wives in almost equal proportions was the negative behavior of members including a belligerent attitude of some group members, and the tendency of some members to monopolize the discussion.

From the several topics which were discussed in the program, subjects were asked to select the three topics which they found most interesting and useful. Their responses are presented in Table 22. The workers tended to find the discussion of physical health most useful while the wives chose legal affairs as the most interesting and useful topic. Workers and wives agreed on the four most useful topics: physical health; financial planning; family, friends and living arrangements; and legal affairs. The leisure time discussion topics was least chosen by workers and wives.

TABLE 22. TOPICS WHICH THE WORKERS AND WIVES FOUND MOST INTERESTING AND USEFUL

Most interesting and useful topics	Percent of total	
	Workers (n-36)	Wives (n-25)
Physical health	52.8	44.0
Financial planning	50.0	64.0
Family, friends, living arrangements	50.0	36.0
Legal affairs	44.4	84.0
Mental health	41.7	32.0
Work and retirement	38.9	32.0
Union and community resources	30.6	28.0
Use of leisure time	16.7	24.0

Approximately two-thirds of the subjects thought that more time should be spent on one or more of the topics (see Table 23), but apparently

TABLE 23. EXTENT TO WHICH EXPERIMENTAL SUBJECTS WANTED MORE TIME SPENT ON THE PROGRAM

Responses of subjects	Percent of total	
	Workers (n-36)	Wives (n-25)
Do you wish more time had been spent on one or more of the topics?		
Yes	69.4	60.0
No	25.0	24.0
No information	5.6	10.0
On how many topics should more time have been spent?		
None	25.0	24.0
1 or 2	38.9	32.0
3 or more	16.7	16.0
No information	19.4	28.0

it was principally one or two topics rather than all of the topics which would profit from more time.

With the exception of one of the workers, all subjects thought it was a good idea for husbands and wives to attend the preretirement education program together (see Table 24). The most frequent comment on the part of the wives in this respect was that it gave them the opportunity for the first time to gain an understanding of their husbands' pensions and insurance. Other comments made by workers and wives were that the program encouraged them to talk things over, and it helped to hear what other married couples like themselves were thinking about and planning to do in retirement.

TABLE 24. THE SUBJECTS' REACTIONS TO HUSBANDS AND WIVES ATTENDING THE PROGRAM TOGETHER AND TO THE VALUE OF THE PROGRAM FOR OTHER AUTOMOBILE WORKERS AND WIVES

Responses of subjects	Percent of total	
	Workers(n-36)	Wives(n-25)
Do you think it is a good idea for husbands and wives to come to the meetings together?		
Yes	97.2	100.0
No		
No information	2.8	
Judging from what you got out of the meetings do you think they should be offered to other workers and wives?		
Yes	94.4	100.0
No		
No information	5.6	

Table 24 also shows that nearly all of the subjects thought the program was worthwhile enough to offer to other automobile workers and wives.

More specific effects of the program were explored by asking the following questions:

1. After coming to the meetings do you have a better idea of what retirement is going to be like? (yes; no; don't know)
2. Do you believe that you're better prepared for retirement now that you have come to the meetings? (yes; no; don't know)
3. Do you feel any differently about retirement as a result of coming to these meetings? (yes; no; don't know)

The data in Table 25 shows that with few exceptions workers and wives

TABLE 25. EFFECT OF THE PROGRAM ON PRECONCEPTION OF RETIREMENT AND PREPARATION FOR RETIREMENT

Reactions of subjects after participating in the program	Percent of total	
	Workers (n-36)	Wives (n-25)
Had a better idea of what retirement was going to be like	91.7	100.0
Believed they were better prepared for retirement	97.2	100.0
Felt differently about retirement	80.6	64.0

said they had a better idea of what retirement was going to be like, and they believed they were better prepared for retirement after participating in the program. There was more uncertainty especially among wives, however, when they were asked whether the program made them feel any differently about retirement. This could be due to the fact that most of them had a positive view of retirement before participating in the program.

The most important ways in which subjects felt differently after participating in the program are summarized in Table 26. The most important changes after participation were those of becoming better informed about retirement and feeling better prepared for retirement.

TABLE 26. MOST IMPORTANT WAYS BY WHICH THE PROGRAM CHANGED WORKERS AND WIVES

Most important change	Percent of total	
	Workers (n-36)	Wives (n-25)
Made subject think more	5.6	
Encouraged subject to plan or take action	5.5	
Felt better in general about retirement	5.5	12.0
Became better informed about retirement	27.8	32.0
Learned ways of doing things	2.8	8.0
Taught subject what he didn't know		
Felt better prepared for retirement	19.4	
Other change	16.7	16.0
No change	16.7	32.0
Totals	100.0	100.0

Finally, subjects were asked whether, if they had it to do all over again, they would take the time to come to preretirement education discussion meetings such as the ones in which they had participated. All of the wives and all except two of the workers maintained that they would participate in the program. As a matter of fact, at the final session many of the workers and wives said they wished the meetings could continue or that they would appreciate being notified when additional programs were to be offered.

It will be recalled that special reading and audio-visual materials were prepared for use by hourly-rated workers and their wives in preretirement education discussion programs. Subject matter booklets and short stories were distributed each week and workers and their wives encouraged to read and discuss them together in preparation for the subsequent meeting. Over 80 per cent of husbands and wives stated that they read all or almost all of the reading material (see Table 27).

TABLE 27. NUMBER OF PRERETIREMENT EDUCATION BOOKLETS AND SHORT STORIES READ BY WORKERS AND WIVES

How many of the booklets and short stories did you read?	Percent of total	
	Workers(n-36)	Wives(n-25)
Very few or none	2.8	
About half	13.9	16.0
All or almost all	83.9	84.0
Totals	100.0	100.0

Specific reactions to the program materials were indexed by asking subjects to answer two open-ended questions:

1. In general, what was your reaction to the booklets and short stories?

2. What in general was your reaction to the films which were shown during the program?

The most frequent reactions of workers to the reading material was that they liked the content of the material, that it was a source of ideas or made the subject think, and that it was informative. Wives also liked the subject matter and found it to be a source of ideas; but, wives also emphasized the true-to-life character of the material (see Table 28 on the following page).

Reactions of workers and wives to the films were similar to reactions to the reading materials except in this instance the workers rather than the wives emphasized the true-to-life character of the material. Apparently the films helped more of the wives to understand various aspects of retirement.

TABLE 28. REACTIONS OF WORKERS AND WIVES TO THE PRERETIREMENT EDUCATION READING AND AUDIO-VISUAL MATERIALS

Kinds of reactions	Percent of total			
	Reactions to reading materials		Reactions to audio-visual	
	Workers(n-36)	Wives(n-25)	Workers(n-36)	Wives(n-25)
Informative and educational	13.9	4.0	2.8	8.0
Liked the subject matter	47.2	32.0	19.4	20.0
Material seemed true-to-life	5.6	16.0	13.9	4.0
Helped understanding	5.6	20.0	8.3	24.0
Encouraged planning and action		8.0	11.1	4.0
Source of ideas or made subject think	16.7	12.0	25.0	20.0
Negative reactions	2.8		8.3	4.0
Other			5.6	
No information	8.3	8.0	5.6	8.0
Totals	100.0	100.0	100.0	100.0

V. Other Outcomes of the Study

The present study, one of the first to be based on materials and methods developed especially for hourly-rated workers, has generated many kinds of activities including additional preretirement education research, training programs, service activities of various kinds, and a number of publications.

Research Outcomes

The present research served as a basis for two subsequent research efforts in preretirement education. One of these, a cross-national study comparing the structure and function of programs in Great Britain and the United States, served as a guide to practitioners in both countries and it identified some of the issues in these countries which required solutions in order to advance the field (Hunter, 1965).

The second major research outcome was a three-year longitudinal study which assessed the effects of participation in a preretirement education program during the years after retirement (Hunter, 1968). Approximately half of the subjects in the longitudinal study were carried over from the present study. In general, long-term gains as a result of participation in a preretirement education program were observed during the first few years of retirement which did not appear just prior to retirement.

Training Outcomes

A major finding of the cross-national study mentioned above was the complete lack of any effort to train leaders for preretirement education, and the effect this was having on program development in both countries. Accordingly, training programs were initiated following the present research in various parts of the country as indicated in Table 29.

TABLE 29. A SUMMARY OF TRAINING OUTCOMES OF THE STUDY

Region of the country where training was performed	Number of trainees
New England	23*
North central	113*
Southeast	2
Northwest	27
Totals	165

*Plans are being made to conduct training programs for program leaders under the auspices of the New England Center for Continuing Education, and various Detroit city departments.

Service Outcomes

Service outcomes of the present study are of three kinds: 1) consultation, 2) dissemination of information, and 3) conduct of preretirement education programs for older people. Consultation services have included assistance given to other universities in developing training programs in preretirement education, to television stations, magazines and newspapers in the preparation of programs or special stories and to various industries, government agencies, and other organizations in the study of older people in their workforce and the need for preretirement education programs. One of the most interesting new developments in this regard is the growing number of Catholic orders throughout the country which are seeking help in evaluating the retirement of their members and the conduct of preparation for retirement programs.

Adult education departments, industrial organizations, labor unions, community committees for older people, churches, state commissions on aging and government agencies at the local, state and federal levels are only a few of the kinds of organizations which have written in increasing numbers during the past five years for information and preretirement education materials.

Finally, preretirement education programs have been offered to several hundred older people throughout the country since the completion of the research and training programs. For example, in one major automobile industry 208 programs have been offered in various parts of the country to approximately 3,000 employees and 2,000 spouses of employees during the past three years. The leadership which numbers 130 and the materials for these programs had their origins in the present research effort.

Publications

In addition to the preparation of a set of still thematic apperception type pictures and a series of six 16mm sound films, the project has generated a number of publications, as follows:

Hunter, W. W. 1962. Background considerations for research planning in preretirement education. Ann Arbor: The University of Michigan, Division of Gerontology (mimeographed).

Hunter, W. W. 1962. Trends in preretirement education. Ann Arbor: The University of Michigan, Division of Gerontology (mimeographed).

Hunter, W. W., and Curtis, T. T. 1964. Bibliography on preparation for retirement. Ann Arbor: The University of Michigan, Division of Gerontology (mimeographed).

Hunter, W. W. 1965. A cross-national appraisal of preretirement education. Ann Arbor: The University of Michigan, Division of Gerontology.

Hunter, W. W. 1967. Cooperation between industry, labor and the community in retirement education. Int. Review of Community Development, N.S. 17-18, pp. 103-118.

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Hunter, W. W. (In Press) Thematic pictures of older people. The University of Michigan, Division of Gerontology.

Hunter, W. W. (In Press) Leader's manual for preretirement education. Ann Arbor: The University of Michigan, Division of Gerontology.

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APPENDIX 1

TABLES

TABLE 30. THE AGE OF EXPERIMENTAL AND CONTROL WORKERS

Age	Experimental (n-36)	Control (n-52)	Both groups (n-88)
58	1		1
59	1		1
60	5	4	9
61	4	4	8
62	5	10	15
63	6	9	15
64	5	11	16
65	5	5	10
66	2	6	8
67		1	1
68	2	2	4
Median age	63.3	63.9	63.7

Chi-square = 2.72, df = 2, $p > .05$ Age categories 57-60, 61-64 and 65-68 were used to make test.

TABLE 31. THE AGE OF EXPERIMENTAL AND CONTROL WIVES

Age	Experimental (n-25)	Control (n-29)	Both groups (n-54)
46 - 50		3	3
51 - 55	7	4	11
56 - 60	11	10	21
61 - 65	6	11	17
66 and older	1	1	2
Median age	57.5	58.2	57.8

Chi-square = 1.07, df = 2, $p > .05$ Age categories 46-50 and 51-55 were combined.

TABLE 32. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF MARITAL STATUS

Marital status	Experimental (n-36)	Control (n-52)	Both groups (n-88)
Married	27	49	76
Single	5	2	7
Widowed	3	1	4
Divorced	1		1

Chi-square = 5.15, df = 1, $p < .05$ Single, widowed and divorced were combined to make the test.

TABLE 33. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF RACE

Race	Workers[a]			Wives[b]		
	Experimental (n-36)	Control (n-52)	Both groups (n-88)	Experimental (n-25)	Control (n-29)	Both groups (n-54)
White	32	37	69	24	21	45
Negro	4	15	19	1	8	9

[a] Chi-square = 2.97, df = 1, p > .05

[b] Fisher's exact test significant at the .05 level of confidence

TABLE 34. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF RELIGION

Religion	Experimental (n-36)	Control (n-52)	Both groups (n-88)
Catholic	14	16	30
Protestant	20	33	53
Other	1	2	3
No preference	1		1
No information		1	1

Chi-square = .32, df = 1, p > .05 "Other", "no preference" and "no information" not included in the test.

TABLE 35. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF BIRTHPLACE

Birthplace	Workers[a]			Wives[b]		
	Exp. (n-36)	Cont. (n-52)	Both groups (n-88)	Exp. (n-25)	Cont. (n-29)	Both groups (n-54)
Native born	18	33	51	18	22	40
Foreign born						
English speaking	7	7	14	3	2	5
Non-English speaking	10	12	22	3	5	8
No information	1		1	1		1

[a] Chi-square = 1.32, df = 2, $p > .05$ "No information" not included in this and in subsequent tests.

[b] Chi-square = .06, df = 1, $p > .05$ Test based on "Native born" versus "foreign born".

TABLE 36. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF NUMBER OF GRADES IN SCHOOL COMPLETED

Grades completed	Workers[a]			Wives[b]		
	Exp. (n-36)	Cont. (n-52)	Both groups (n-88)	Exp. (n-25)	Cont. (n-29)	Both groups (n-54)
Less than 8 grades	12	18	30	7	5	12
Completed 8 grades	12	27	39	9	11	20
More than 8 grades	12	5	17	9	12	21
No information		2	2		1	1
Median grades	8.5	8.3	8.3	8.9	8.9	8.9

[a] Chi-square = 7.78, df = 2, $p < .05$

[b] Chi-square = .79, df = 2, $p > .05$

TABLE 37. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF DIFFICULTY READING OR WRITING ENGLISH

Extent of Difficulty	Workers[a]			Wives[b]		
	Exp. (n-36)	Cont. (n-52)	Both groups (n-88)	Exp. (n-25)	Cont. (n-29)	Both groups (n-54)
No difficulty at all	21	28	49	22	20	42
Very little difficulty	9	5	14		4	4
Some difficulty	4	14	18	3	4	7
A lot of difficulty	2	4	6		1	1
No information		1	1			

[a] Chi-square = 5.73, df = 2, $p > .05$ "Some" and "a lot" combined.

[b] Fisher's exact test not significant at .05 level of confidence. "No difficulty" combined with "very little difficulty" and "some difficulty" combined with "a lot of difficulty".

TABLE 38. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF YEARS LIVED IN PRESENT COMMUNITY

Years of residence	Experimental (n-36)	Control (n-52)	Both groups (n-88)
10 years or less	6	6	12
11 - 20	5	16	21
21 - 40	16	19	35
41 - 60	9	7	16
61 years or more		3	3
No information		1	1
Median years	33.8	25.5	29.0

Chi-square = 3.59, df = 3, $p > .05$ "41 - 60" and "61 years or more" were combined for the test.

TABLE 39. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF HOME OWNERSHIP

Ownership status	Experimental (n-36)	Control (n-52)	Both groups (n-88)
Own home	28	46	74
Rent home or apartment	7	2	9
Other arrangement	1	3	4
No information		1	1

Chi-square = 1.68, df = 1, p > .05 "Rent home" and "other arrangement" were combined.

TABLE 40. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF NUMBER OF PROBLEMS WITH THE HOME

Number of Problems	Workers[a]			Wives[b]		
	Exp. (n-36)	Cont. (n-52)	Both groups (n-88)	Exp. (n-25)	Cont. (n-29)	Both groups (n-54)
No problems	28	43	71	17	23	40
One problem	8	5	13	5	3	8
Two problems		2	2	2	1	3
Three problems					1	1
Four problems					1	1
No information		2	2	1		1

[a] Chi-square = .49, df = 1, p > .05 "One" and "two problems" combined

[b] Chi-square = .15, df = 1, p > .05 "One", "two", "three" and "four problems" combined.

TABLE 41. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF PLANS TO MOVE AFTER RETIREMENT

Plans to move	Workers[a]			Wives[b]		
	Experimental (n-36)	Control (n-52)	Both groups (n-88)	Experimental (n-25)	Control (n-29)	Both groups (n-54)
Yes	6	6	12	5	6	11
No	14	24	38	10	18	28
Undecided'	16	22	38	10	5	15

[a] Chi-square = .69, df = 2, p > .05

[b] Chi-square = 3.77, df = 2, p > .05

TABLE 42. EXPERIMENTAL AND CONTROL WIVES COMPARED ON THE BASIS OF PREVIOUS AND PRESENT EMPLOYMENT STATUS

Previous and present employment status	Experimental (n-25)	Control (n-29)	Both groups (n-54)
During your adult life have you earned money by working for others or yourself?[a]			
Yes	22	24	46
No	3	5	8
Are you working (for pay) now?[b]			
Full or part-time	4	7	11
Not working	21	22	43

[a] Difference compared by Fisher's exact test not significant at .05 level of confidence.

[b] Chi-square = .16, df = 1, p > .05

TABLE 43. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF TYPE OF PRESENT OCCUPATION

Type of present occupation	Experimental (n-36)	Control (n-52)	Both groups (n-88)
Skilled	7	3	10
Semi-skilled	11	21	32
Unskilled	18	28	46

Chi-square = 4.13, df = 2, p > .05

TABLE 44. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF YEARS IN PRESENT OCCUPATION

Years in present occupation	Workers[a]			Wives[b]		
	Exp. (n-36)	Cont. (n-52)	Both groups (n-88)	Exp. (n-4)	Cont. (n-7)	Both groups (n-11)
0 - 4	10	7	17		1	1
5 - 9	5	6	11		1	1
10 - 19	5	13	18	1	2	3
20 - 29	5	17	22	1	3	4
30 - 39	6	4	10			
40 - 49	3	2	5	1		1
No information	2	3	5	1		1

[a] Chi-square = 8.90, df = 5, p > .05

[b] Eleven of the wives were working. Fisher's exact test not significant at .05 level of confidence. "0 - 9" compared with "10 and more years."

TABLE 45. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF THE MOST IMPORTANT REASON FOR WORKING

Most important reason for working	Workers[a]			Wives[b]		
	Exp. (n-36)	Cont. (n-52)	Both groups (n-88)	Exp. (n-4)	Cont. (n-7)	Both groups (n-11)
The money it brings	26	37	63	2	4	6
Some other reason	9	15	24	2	3	5
No information	1		1			

[a] Chi-square = .01, df = 1, $p > .05$

[b] Fisher's exact test not significant at .05 level of confidence

TABLE 46. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF SATISFACTION WITH THEIR JOB, DESIRE TO CHANGE JOB, AND WORRY OVER ABILITY TO DO THEIR JOB

Job characteristics	Experimental (n-36)	Control (n-52)	Both groups (n-88)
Enjoyment of job[a]			
Enjoys job very much	10	15	25
Enjoys job fairly much	18	25	43
Doesn't enjoy job so much	5	8	13
Doesn't enjoy job at all	2	4	6
No information	1		1
Desire to change job[b]			
Yes	6	9	15
No	7	9	16
Undecided	22	34	56
No information	1		1
Worry over ability to do job[c]			
Often	1	5	6
Sometimes	8	18	26
Hardly ever	26	29	55
No information	1		1

[a] Chi-square = .01, df = 1, $p > .05$ "Enjoys job very much" and "fairly much" compared with "doesn't enjoy job so much" and "doesn't enjoy job at all".

[b] Chi-square = .10, df = 2, $p > .05$

[c] Chi-square = 2.34, df = 1, $p > .05$ "Often" and "sometimes" were combined to make the test.

TABLE 47. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF HAVING INCOME OTHER THAN THAT FROM THE JOB

Other income	Experimental (n-36)	Control (n-52)	Both groups (n-88)
Yes	9	15	24
No	26	37	63
No information	1		1

Chi-square = .01, df = 1, $p > .05$

TABLE 48. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF TOTAL INCOME FROM ALL SOURCES

Total income	Experimental (n-36)	Control (n-52)	Both groups (n-88)
$0 - $4,999	10	2	12
5,000 - 5,999	7	11	18
6,000 - 6,999	10	23	33
7,000 - 7,999	7	10	17
8,000 and more	2	4	6
No information		2	2

Chi-square = 10.54, df = 4, $p < .05$

TABLE 49. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF ADEQUACY OF PRESENT INCOME, WORRY OVER MONEY MATTERS AND ATTITUDE TOWARD STANDARD OF LIVING

Financial characteristics	Workers			Wives		
	Exp. (n-36)	Cont. (n-52)	Total (n-88)	Exp. (n-25)	Cont. (n-29	Total (n-54)
Adequacy of present income[a,b]						
Enough to meet expenses	29	39	68	22	22	44
Not enough to meet expenses	6	12	18	3	6	9
No information	1	1	2		1	1
Extent of worry over money[c,d]						
Often	5	6	11	4	8	12
Sometimes	14	17	31	14	5	19
Hardly ever	17	29	46	6	16	22
No information				1		1
Standard of living[e,f]						
Better today	29	36	65	18	25	43
Same as it was	4	11	15	4	3	7
Better during most of lifetime	3	5	8	3	1	4

[a] Chi-square (workers) = .20, df = 1, p > .05

[b] Chi-square (wives) = .30, df = 1, p > .05

[c] Chi-square (workers) = .62, df = 2, p > .05

[d] Chi-square (wives) = 9.75, df = 2, p < .01

[e] Chi-square (workers) = 1.66, df = 2, p > .05

[f] Chi-square (wives) = .91, df = 1, p > .05 "Same" and "better" were combined to make the test.

TABLE 50. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF SELF-RATING OF HEALTH, CHANGE IN HEALTH DURING THE PAST YEAR, HEALTH PROBLEMS AND EXTENT OF WORRY OVER HEALTH

Health characteristics	Workers			Wives		
	Exp. (n-36)	Cont. (n-52)	Both groups (n-88)	Exp. (n-25)	Cont. (n-29)	Both groups (n-54)
Self-rating of health[a,b]						
Poor	3	6	9	1	5	6
Fair	19	25	44	10	12	22
Good	14	20	34	14	12	26
No information		1	1			
Recent health change[c,d]						
Became worse	7	8	15	2	5	7
No change	27	41	68	17	19	36
Became better	2	3	5	6	4	10
No information					1	1
Health problem(s)[e,f]						
Yes	14	20	34	10	10	20
No	21	32	53	15	18	33
No information	1		1		1	1
Extent of worry over health[g,h]						
Often	2	4	6	4	7	11
Sometimes	18	24	42	11	8	19
Hardly ever	16	24	40	10	13	23
No information					1	1

[a] Chi-square (workers) = .30, df = 2, $p > .05$

[b] Fisher's exact test not significant at .05 level of confidence; "poor" and "fair" combined and compared with "good" (wives).

[c] Chi-square (workers) = .04, df = 1, $p > .05$ "No change" and "better" combined and compared with "worse".

[d] Fisher's exact test not significant at .05 level of confidence; comparison of groups same as in [c] (wives).

[e] Chi-square (workers) = .05, df = 1, $p > .05$.

[f] Chi-square (wives) = .00, df = 1, $p > .05$

[g] Chi-square (workers) = .00, df = 1, $p > .05$

[h] Chi-square (wives) = .04, df = 1, $p > .05$

TABLE 51. EXPERIMENTAL AND CONTROL WORKERS AND WIVES COMPARED ON THE BASIS OF MEMBERSHIP IN ORGANIZATIONS AND FREQUENCY OF VISITS WITH FRIENDS AND RELATIVES

Social participation characteristics	Workers			Wives		
	Exp. (n-36)	Cont. (n-52)	Both groups (n-88)	Exp. (n-25)	Cont. (n-29)	Both groups (n-54)
Organizational membership[a,b]						
None		1	1	2	8	10
1	4	9	13	3	5	8
2	12	12	24	9	7	16
3	10	11	21	2	2	4
4	3	3	6	3	3	6
5	1	3	4			
6		4	4	2	1	3
7					1	1
No information	6	9	15	4	2	6
Visits with friends and relatives[c,d]						
Often	12	16	28	11	10	21
Sometimes	19	28	47	14	13	27
Hardly ever or never	4	6	10		5	5
No information	1	2	3		1	1

[a] t-value (workers) = -.74, df = 72, $p > .05$ Test made on 0-1, 2, 3, 4 or more.

[b] t-value (wives) = 1.64, df = 45, $p > .05$ Test made on 0-1, 2, 3, 4 or more.

[c] Chi-square (workers) = .05, df = 2, $p > .05$

[d] P (exact probability) (wives) = .07, $p > .05$ "Hardly ever or never" not included in test.

TABLE 52. EXPERIMENTAL AND CONTROL WORKERS COMPARED ON THE BASIS OF TIME TO EXPECTED DATE OF RETIREMENT AND MOST IMPORTANT REASON FOR RETIRING

Retirement characteristics	Experimental (n-36)	Control (n-52)	Both groups (n-88)
Time remaining before retirement[a]			
Less than one year	13	14	27
One to two years	8	13	21
Two to three years	7	10	17
Three to four years	3	7	10
Four or more years	4	5	9
No information	1	3	4
Most important reason for retiring[b]			
Will want to retire	16	17	33
Will have to retire because of age	9	15	24
Poor health	6	8	14
Difficulty doing job	4	5	9
Other reason	1	1	2
No information		6	6

[a] Chi-square = 1.17, df = 4, $p > .05$

[b] Chi-square = 3.64, df = 4, $p > .05$

TABLE 53. PRE AND POSTTEST MEAN SCORES OF EXPERIMENTAL AND CONTROL WORKERS IN SUBGROUPS BASED ON RACE

Index number	Mean scores							
	White (n-69)				Negro (n-19)			
	Experimental(n-32)		Control(n-37)		Experimental(n-4)		Control(n-15)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1.062	1.281	1.486	1.432	1.250	2.000	1.133	1.733
2	3.281	2.937	3.838	3.162	4.250	4.500	3.400	3.667
3	.656	.688	.703	.703	1.000	.500	.667	.800
4	1.500	1.375	1.568	1.270	1.000	1.750	1.600	1.533
5	1.400	1.250	1.351	1.297	1.500	1.000	1.400	1.133
6	.813	1.031	.892	.892	1.250	1.250	.867	1.200
7	1.250	1.312	1.189	1.054	1.500	1.750	1.467	1.800
8	1.781	1.937	2.000	2.000	2.000	2.000	1.733	1.800
9	.594	.594	.541	.541	.250	.000	.533	.467
10	1.594	1.375	1.568	1.568	1.500	1.500	2.067	1.867
11	.594	.625	.703	.730	.250	.500	.267	.267
12	4.806	5.034	4.568	5.000	5.250	5.250	4.867	5.467
13	.531	.313	.595	.622	.750	.000	.400	.400
14	.469	.156	.459	.405	.500	.000	.333	.200
15	4.437	5.645	3.139	3.324	2.750	5.250	2.154	3.600
16	11.687	13.937	11.189	12.189	10.000	15.500	11.533	13.400
17	.625	.750	.730	.784	.500	1.000	.467	.600

TABLE 54. PRE AND POSTTEST MEAN SCORES OF EXPERIMENTAL AND CONTROL WORKERS IN SUBGROUPS BASED ON BIRTHPLACE

Index number	Mean scores							
	English (n-65)				Non-English (n-22)			
	Experimental(n-25)		Control(n-40)		Experimental(n-10)		Control(n-12)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1.200	1.400	1.375	1.600	.700	1.200	1.417	1.250
2	3.640	3.440	3.700	3.450	2.700	2.200	3.750	2.835
3	.800	.680	.700	.775	.400	.600	.667	.583
4	1.360	1.560	1.625	1.325	1.600	1.100	1.417	1.417
5	1.400	1.200	1.325	1.175	1.600	1.300	1.500	1.500
6	1.000	1.160	.900	1.025	.500	.700	.833	.833
7	1.240	1.400	1.200	1.150	1.300	1.400	1.500	1.667
8	1.800	1.880	1.850	1.900	1.800	2.000	2.167	2.083
9	.560	.560	.525	.525	.600	.500	.583	.500
10	1.520	1.400	1.775	1.700	1.700	1.400	1.500	1.500
11	.480	.600	.525	.575	.800	.600	.750	.667
12	5.080	5.375	4.750	5.184	4.333	4.250	4.333	5.000
13	.560	.360	.475	.500	.600	.100	.750	.750
14	.440	.160	.350	.275	.600	.100	.667	.583
15	4.080	5.708	2.763	3.500	4.700	5.200	3.273	3.083
16	11.720	14.360	11.850	13.050	10.500	13.100	9.417	10.833
17	.560	.800	.650	.775	.700	.700	.667	.583

TABLE 55. PRE AND POSTTEST MEAN SCORES OF EXPERIMENTAL AND CONTROL WORKERS IN SUBGROUPS BASED ON MARITAL STATUS

Index number	Mean scores							
	Married (n-76)				Not married (n-12)			
	Experimental(n-27)		Control(n-49)		Experimental(n-9)		Control(n-3)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	.889	1.444	2.000	1.333	1.148	1.333	1.342	1.531
2	3.222	3.333	4.333	2.667	3.444	3.037	3.673	3.347
3	.556	.889	1.000	.667	.741	.593	.673	.735
4	1.444	1.556	1.333	1.000	1.444	1.370	1.592	1.367
5	1.222	1.111	1.000	1.000	1.481	1.259	1.388	1.265
6	1.333	1.556	1.000	1.333	.704	.889	.878	.959
7	.889	1.000	.667	.667	1.407	1.481	1.306	1.306
8	2.111	2.111	2.333	2.333	1.704	1.889	1.898	1.918
9	.556	.556	.333	1.000	.556	.519	.551	.490
10	1.222	1.222	2.000	1.333	1.704	1.444	1.694	1.673
11	.556	.778	1.000	.667	.556	.556	.551	.592
12	5.000	5.444	5.333	4.667	4.808	4.917	4.612	5.174
13	.778	.444	.000	.333	.481	.222	.571	.571
14	.556	.333	.000	.333	.444	.074	.449	.347
15	4.630	6.000	2.870	3.551	3.111	4.444	3.000	1.000
16	11.815	14.889	11.184	12.612	10.556	11.778	13.000	11.333
17	.667	.778	.667	.667	.593	.778	.653	.735

TABLE 56. PRE AND POSTTEST MEAN SCORES OF EXPERIMENTAL AND CONTROL WORKERS IN SUBGROUPS BASED ON EDUCATION

Index number	Mean scores							
	8 or more grades (n-58)				Less than 8 grades (n-30)			
	Experimental(n-24)		Control(n-34)		Experimental(n-12)		Control(n-18)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1.083	1.292	1.235	1.529	1.083	1.500	1.667	1.500
2	3.375	3.167	3.618	3.206	3.417	3.000	3.889	3.500
3	.667	.750	.667	.667	.708	.625	.706	.765
4	1.417	1.500	1.529	1.324	1.500	1.250	1.667	1.389
5	1.417	1.250	1.353	1.265	1.417	1.167	1.389	1.222
6	.750	1.000	.853	1.059	1.083	1.167	.944	.833
7	1.375	1.500	1.206	1.029	1.083	1.083	1.389	1.722
8	1.792	1.833	1.882	1.941	1.833	2.167	2.000	1.944
9	.667	.625	.559	.559	.333	.333	.500	.444
10	1.667	1.333	1.765	1.667	1.417	1.417	1.611	1.647
11	.583	.667	.618	.647	.500	.611	.500	.596
12	4.826	5.095	4.735	5.125	4.917	5.000	4.500	5.176
13	.583	.333	.559	.500	.500	.167	.500	.667
14	.542	.125	.412	.294	.333	1.670	.444	.444
15	4.833	6.000	2.969	3.382	3.083	4.833	2.706	3.444
16	11.500	14.583	11.559	12.765	11.500	13.167	10.778	12.111
17	.625	.833	.735	.853	.583	.667	.500	.500

TABLE 57. PRE AND POSTTEST MEAN SCORES OF EXPERIMENTAL AND CONTROL WORKERS IN SUBGROUPS BASED ON OCCUPATION

Index number	Mean scores							
	Skilled occupations (n-42)				Unskilled occupations (n-46)			
	Experimental(n-18)		Control(n-24)		Experimental(n-18)		Control(n-28)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1.056	1.444	1.417	1.625	1.111	1.278	1.357	1.429
2	3.278	3.333	3.625	3.417	3.500	2.889	3.786	3.214
3	.833	.778	.750	.750	.556	.556	.643	.714
4	1.389	1.389	1.625	1.500	1.500	1.444	1.536	1.214
5	1.500	1.278	1.417	1.292	1.333	1.167	1.321	1.214
6	.778	.889	.833	1.000	.944	1.222	.929	.964
7	1.333	1.389	1.458	1.375	1.222	1.333	1.107	1.179
8	1.889	2.111	2.167	2.125	1.722	1.778	1.714	1.786
9	.556	.444	.500	.417	.556	.611	.571	.607
10	1.444	1.278	1.750	1.667	1.722	1.500	1.679	1.643
11	.500	.500	.417	.583	.611	.722	.714	.607
12	4.889	4.882	4.583	5.095	4.824	5.250	4.714	5.179
13	.611	.278	.583	.625	.500	.278	.500	.500
14	.500	.111	.417	.292	.444	.167	.429	.393
15	4.222	5.529	2.955	3.583	4.278	5.667	2.815	3.250
16	10.333	13.500	11.417	12.125	12.667	14.722	11.179	12.893
17	.389	.667	.583	.667	.833	.889	.714	.786

TABLE 58. PRE AND POSTTEST MEAN SCORES OF EXPERIMENTAL AND CONTROL WORKERS IN SUBGROUPS BASED ON INCOME (HIGH AND LOW INCOME GROUPS)

Index number	Mean scores							
	High income (n-12)				Low income (n-22)			
	Experimental(n-10)		Control(n-2)		Experimental(n-8)		Control(n-14)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	.900	1.000	1.500	2.000	1.125	1.625	1.500	1.357
2	2.600	2.400	4.000	3.500	3.375	3.875	4.214	2.857
3	.300	.600	1.000	1.000	.875	.875	.875	.714
4	1.400	1.500	1.500	2.000	1.375	1.375	1.500	1.286
5	1.200	1.300	1.500	2.000	1.625	1.125	1.429	1.357
6	.900	1.300	2.000	1.000	1.125	1.125	.643	1.000
7	1.100	1.000	1.500	.500	1.375	1.250	1.286	1.429
8	1.900	2.100	2.000	1.500	2.000	2.000	1.857	1.571
9	.700	.800	1.000	1.000	.500	.375	.500	.429
10	1.400	1.300	1.500	1.500	1.375	1.375	1.571	1.643
11	.600	.600	.500	.000	.625	.625	.500	.643
12	4.700	5.000	3.500	4.500	5.000	5.125	5.000	5.385
13	1.400	1.500	2.000	1.000	1.875	1.250	1.538	1.538
14	.400	.300	1.000	.000	.625	.125	.357	.357
15	4.000	4.500	3.000	3.500	3.000	5.000	3.000	3.071
16	9.900	11.600	9.500	9.500	9.875	13.875	11.357	12.857
17	.500	.600	.500	.500	.250	.625	.786	.714

TABLE 59. PRE AND POSTTEST MEAN SCORES OF EXPERIMENTAL AND CONTROL WORKERS IN SUBGROUPS BASED ON INCOME (HIGH VERSUS MEDIUM AND LOW)

Index number	Mean scores							
	High income (n-12)				Medium and low income (n-73)			
	Experimental(n-10)		Control(n-2)		Experimental(n-25)		Control(n-48)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	.900	1.000	1.500	2.000	1.160	1.480	1.375	1.500
2	2.600	2.400	4.000	3.500	3.680	3.360	3.708	3.312
3	.300	.600	1.000	1.000	.840	.680	.667	.708
4	1.400	1.500	1.500	2.000	1.480	1.360	1.583	1.292
5	1.200	1.300	1.500	2.000	1.480	1.200	1.354	1.208
6	.900	1.300	2.000	1.000	.880	1.000	.854	1.021
7	1.100	1.000	1.500	.500	1.360	1.400	1.271	1.229
8	1.900	2.100	2.000	1.500	1.720	1.880	1.937	1.937
9	.700	.800	1.000	1.000	.520	4.400	.521	.479
10	1.400	1.300	1.500	1.500	1.640	1.400	1.708	1.646
11	.600	.600	.500	.000	.520	.600	.583	.625
12	4.700	5.000	3.500	4.500	4.875	5.045	4.687	5.133
13	1.400	1.500	2.000	1.000	1.625	1.130	1.533	1.565
14	.400	.300	1.000	.000	.480	.080	.396	.354
15	4.000	4.500	3.000	3.500	4.360	6.042	2.889	3.500
16	9.900	11.600	9.500	9.500	12.200	15.120	11.312	12.750
17	.500	.600	.500	.500	.640	.840	.646	.729

TABLE 60. PRE AND POSTTEST MEAN SCORES OF EXPERIMENTAL AND CONTROL WORKERS IN SUBGROUPS BASED ON INCOME (HIGH AND MEDIUM VERSUS LOW INCOME)

Index number	Mean scores							
	High and medium income (n-63)				Low income (n-22)			
	Experimental(n-27)		Control(n-36)		Experimental(n-8)		Control(n-14)	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
1	1.074	1.259	1.333	1.583	1.125	1.625	1.500	1.357
2	3.370	2.852	3.528	3.500	3.375	3.875	4.214	2.857
3	.630	.593	.611	.722	.875	.875	.857	.714
4	1.481	1.407	1.611	1.333	1.375	1.375	1.500	1.286
5	1.333	1.259	1.333	1.194	1.625	1.125	1.429	1.357
6	.815	1.000	1.074	1.028	1.125	1.125	.643	1.000
7	1.259	1.296	1.278	1.111	1.375	1.250	1.286	1.429
8	1.704	1.926	1.972	2.056	2.000	2.000	1.857	1.571
9	.593	.593	.556	.528	.500	.375	.500	.429
10	1.630	1.370	1.750	1.639	1.375	1.375	1.571	1.643
11	.519	.593	.611	.583	.625	.625	.500	.643
12	4.769	5.000	4.500	5.000	5.000	5.125	5.000	5.385
13	1.462	1.217	1.559	1.543	1.875	1.250	1.538	1.538
14	.407	.148	.444	.333	.625	.125	.357	.357
15	4.630	5.769	2.853	3.667	3.000	5.000	3.000	3.071
16	12.037	14.185	11.194	12.528	9.875	13.875	11.357	12.857
17	.704	.815	.583	.722	.250	.625	.786	.714

TABLE 61. EXPERIMENTAL WORKERS COMPARED WITH EXPERIMENTAL WIVES ON THE BASIS OF THEIR MEAN SCORES ON FIFTEEN INDEXES BEFORE THE PROGRAM

Reference number of index	Scoring system (+ or -)	Mean scores before the program			t value	Sig.
		Workers	Spouses	M_W-M_S		
1	+	1.083	1.600	- .517	3.346	.01
2	+	3.389	4.640	-1.251	3.284	.01
3	+	.694	1.000	- .306	.000	
4	+	1.444	1.640	- .196	1.118	
5	+	1.417	1.320	.097	.669	
6[a]	+					
7	-	1.278	1.240	.038	.137	
8	+	1.806	2.120	- .314	1.686	
9	-	.566	.600	- .034	.340	
10	+	1.583	1.240	.343	2.098	.05
11	+	.556	.800	- .244	2.009	.05
12[a]	+					
13	+	.556	.520	.036	.228	
14	+	.472	.320	.152	1.183	
15	+	4.250	5.042	- .792	1.213	
16	+	11.500	12.000	- .500	.512	
17	+	.611	.640	- .029	.225	

[a] Not administered to wives

TABLE 62. EXPERIMENTAL WORKERS COMPARED WITH EXPERIMENTAL WIVES ON THE BASIS OF THEIR MEAN SCORES ON FIFTEEN INDEXES AFTER THE PROGRAM

Reference number of index	Scoring system (+ or -)	Mean scores after the program			t value	Sig.
		Workers	Spouses	M_W-M_S		
1	+	1.361	1.600	- .239	1.564	
2	+	3.111	3.760	- .649	1.895	
3	+	.667	.960	- .293	2.891	.01
4	+	1.417	1.160	.257	1.779	
5	+	1.222	1.200	.022	.205	
6[a]	+					
7	-	1.361	1.200	.161	.670	
8	+	1.944	1.960	- .016	.089	
9	-	.528	.720	- .192	1.515	
10	+	1.389	1.600	- .211	1.374	
11	+	.611	.520	.091	.699	
12[a]	+					
13	+	.278	.400	- .122	.924	
14	+	.139	.200	- .061	.626	
15	+	5.600	5.480	.120	.206	
16	+	14.111	14.280	- .169	.176	
17	+	.778	.680	.098	.845	

[a] Not administered to wives

TABLE 63. CONTROL WORKERS COMPARED WITH CONTROL WIVES ON THE BASIS OF THEIR PRETEST MEAN SCORES ON FIFTEEN INDEXES

Reference number of index	Scoring system (+ or -)	Pretest mean scores			t value	Sig.
		Workers	Spouses	M_W-M_S		
1	+	1.385	1.448	- .063	.410	
2	+	3.712	3.966	- .254	.748	
3	+	.692	.931	- .239	2.545	.02
4	+	1.577	1.552	.025	.166	
5	+	1.365	1.310	.055	.494	
6[a]	+					
7	-	1.269	1.172	.097	.395	
8	+	1.923	1.621	.302	1.700	
9	-	.538	.552	- .014	.113	
10	+	1.712	1.759	- .047	.354	
11	+	.577	.483	.094	.809	
12[a]	+					
13	+	1.562	1.519	.043	.329	
14	+	.423	.414	.009	.080	
15	+	2.878	2.862	.016	.033	
16	+	11.288	9.207	2.081	2.779	.01
17	+	.654	.724	- .070	.643	

[a] Not administered to wives

TABLE 64. CONTROL WORKERS COMPARED WITH CONTROL WIVES ON THE BASIS OF THEIR POSTTEST MEAN SCORES ON FIFTEEN INDEXES

Reference number of index	Scoring system (+ or -)	Posttest mean scores			t value	Sig.
		Workers	Spouses	M_W-M_S		
1	+	1.519	1.310	.209	1.536	
2	+	3.308	3.379	- .071	.217	
3	+	.731	.897	- .166	1.769	
4	+	1.346	1.345	.001	.010	
5	+	1.250	1.103	.147	1.243	
6[a]	+					
7	-	1.269	1.069	.200	.783	
8	+	1.942	2.138	- .196	1.038	
9	-	.519	.690	- .171	1.492	
10	+	1.654	1.724	- .070	.609	
11	+	.596	.586	.010	.086	
12[a]	+					
13	+	1.540	1.607	- .127	.516	
14	+	.346	.483	- .137	1.202	
15	+	3.404	3.103	.301	.507	
16	+	12.538	11.621	.917	.997	
17	+	.731	.793	- .062	.617	

[a] Not administered to wives

TABLE 65. RESPONSES TO THE QUESTION: DO YOU LOOK FORWARD TO THE TIME WHEN YOUR HUSBAND WILL STOP WORKING AND RETIRE OR IN GENERAL DO YOU DISLIKE THE IDEA OF HIS RETIRING?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Look forward to it	15	60.0	18	62.1	13	52.0	19	65.5
Dislike the idea	2	8.0	2	6.9	2	8.0	3	10.3
Undecided	8	32.0	9	31.0	10	40.0	7	24.1
No information								
Totals	25	100.0	29	100.0	25	100.0	29	99.9

TABLE 66. RESPONSES TO THE QUESTION: IF IT WERE UP TO YOU ALONE, WOULD YOU HAVE YOUR HUSBAND CONTINUE WORKING?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Have him continue	6	24.0	9	31.0	6	24.0	10	34.5
Have him stop	19	76.0	20	69.0	17	68.0	18	62.1
No information					2	8.0	1	3.4
Totals	25	100.0	29	100.0	25	100.0	29	100.0

TABLE 67. RESPONSES TO THE QUESTION: IN GENERAL HOW DO YOU THINK THINGS WILL GO AFTER YOUR HUSBAND'S RETIREMENT?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Very well	10	40.0	8	27.6	7	28.0	6	20.7
Fairly well	13	52.0	17	58.6	17	68.0	18	62.1
Not very well	2	8.0	2	6.9	1	4.0	4	13.8
Not very well at all			2	6.9			1	3.4
No information								
Totals	25	100.0	29	100.0	25	100.0	29	100.0

TABLE 68. RESPONSES TO THE QUESTION: HOW DO YOU FEEL ABOUT HAVING YOUR HUSBAND AT HOME INSTEAD OF GOING TO WORK EVERY DAY?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Like idea	14	56.0	16	55.2	16	64.0	18	62.1
Don't like idea	3	12.0	4	13.8	3	12.0	1	3.4
Undecided	8	32.0	9	31.0	6	24.0	10	34.5
No information								
Totals	25	100.0	29	100.0	25	100.0	29	100.0

TABLE 69. RESPONSES TO THE QUESTION: HOW WELL PREPARED IS YOUR HUSBAND FOR RETIREMENT?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Very well	10	40.0	3	10.3	2	8.0	6	20.7
Fairly well	11	44.0	15	51.7	16	64.0	15	51.7
Not very well	3	12.0	5	17.2	5	20.0	4	13.8
Not well at all	1	4.0	4	13.8	2	8.0	4	13.8
No information			2	6.9				
Totals	25	100.0	29	99.9	25	100.0	29	100.0

TABLE 70. RESPONSES TO THE QUESTION: HOW DO YOU THINK YOUR HUSBAND WILL GET ALONG IN RETIREMENT?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Very well	7	28.0	7	24.1	5	20.0	7	24.1
Fairly well	13	52.0	12	41.4	16	64.0	11	37.9
Badly	1	4.0					1	3.4
Very badly			1	3.4			1	3.4
Don't know	4	16.0	9	31.0	4	16.0	9	31.0
No information								
Totals	25	100.0	29	99.9	25	100.0	29	99.8

TABLE 71. RESPONSES TO THE QUESTION: HOW LONG DO YOU THINK IT WILL TAKE YOUR HUSBAND TO GET USED TO RETIREMENT?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Less than 1 mo.	13	52.0	11	37.9	8	32.0	9	31.0
1 to 3 mos.	1	4.0	2	6.9			3	10.3
3 to 6 mos.	4	16.0	6	20.7	7	28.0	5	17.2
6 mos. to 1 yr.	3	12.0	3	10.3	5	20.0	5	17.2
1 yr. to 2 yrs.			1	3.4	1	4.0		
2 years +	2	8.0	1	3.4				
Don't know	1	4.0	5	17.2	4	16.0	5	17.2
No information	1	4.0					2	6.9
Totals	25	100.0	29	99.8	25	100.0	29	99.8

TABLE 72. RESPONSES TO THE QUESTION: DO YOU THINK YOUR HUSBAND WILL BE HAPPIER, THE SAME OR LESS HAPPY AFTER HE RETIRES?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Happier	14	56.0	15	51.7	13	52.0	19	65.5
The same	4	16.0	8	27.6	10	40.0	5	17.2
Less happy	6	24.0	5	17.2	2	8.0	5	17.2
No information	1	4.0	1	3.4				
Totals	25	100.0	29	100.0	25	100.0	29	99.9

TABLE 73. RESPONSES TO THE QUESTION: AFTER YOUR HUSBAND RETIRES HOW OFTEN WILL HE WANT TO GO BACK TO WORK?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Often	1	4.0	3	10.3	1	4.0	1	3.4
Sometimes	7	28.0	5	17.2	5	20.0	6	20.7
Hardly ever or never	17	68.0	16	55.2	16	64.0	19	65.5
No information			5	17.2	3	12.0	3	10.3
Totals	25	100.0	29	99.9	25	100.0	29	99.9

TABLE 74. RESPONSES TO THE QUESTION: AFTER YOUR HUSBAND RETIRES HOW OFTEN WILL HE WORRY ABOUT NOT HAVING A JOB TO DO?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Often	3	12.0	2	6.9	1	4.0	1	3.4
Sometimes	9	36.0	9	31.0	8	32.0	10	34.5
Hardly ever or never	13	52.0	13	44.8	14	56.0	17	58.6
No information			5	17.2	2	8.0	1	3.4
Totals	25	100.0	29	99.9	25	100.0	29	99.9

TABLE 75. RESPONSES TO THE QUESTION: AFTER YOUR HUSBAND RETIRES HOW OFTEN WILL HE MISS BEING WITH THE OTHER PEOPLE AT WORK?

Response	Number and percent of total							
	Pretest				Posttest			
	Experimental		Control		Experimental		Control	
	No.	%	No.	%	No.	%	No.	%
Often	5	20.0	4	13.8	3	12.0	6	20.7
Sometimes	9	36.0	9	31.0	13	52.0	10	34.5
Hardly ever or never	11	44.0	11	37.9	8	32.0	12	41.4
No information			5	17.2	1	4.0	1	3.4
Totals	25	100.0	29	99.9	25	100.0	29	100.0

APPENDIX 2

INDEXES

1. Satisfaction with Life (Cornell)

All in all how much happiness would you say you find in life today? (Almost none, some but not very much, *a good deal*)[a]

In general, how would you say you feel most of the time, in good spirits or in low spirits? (*Usually in good spirits*, usually in low spirits)

* On the whole, how satisfied would you say you are with your way of life today? (*Very satisfied*, fairly satisfied, not very satisfied, not satisfied at all)

2. Morale Scale (Kutner)

How often do you feel there's just no point to living? (Often, sometimes, *hardly ever*)

Do you agree or disagree with the statement: things just keep getting worse and worse for me as I get older. (Agree, *disagree*)

How much do you regret the chances you missed during your life to do a better job of living? (*Not at all*, somewhat, a good deal)

All in all, how much unhappiness would you say you find in life today? (*Almost none*, some, but not very much, a good deal)

* On the whole, how satisfied would you say you are with your way of life today? (*Very satisfied*, fairly satisfied, not very satisfied, not satisfied at all)

How much do you plan ahead the things you will be doing next week or the week after--would you say you make *many plans*, *a few plans*, or almost none?

As you get older, would you say things seem to be *better* or worse than you thought they would be?

3. Self Concept of Age (Cornell)

How do you think of yourself as far as age goes--do you think of yourself as middle-aged, elderly, old or what? (Scored responses: middle-aged or "what?" reference such as "young")

4. Attitude Toward Retirement (Cornell)

Some people say that retirement is good for a person, some say it is bad. In general, what do you think? (*Mostly good*, mostly bad)

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[a] Underlined response scored +1. In some instances either one of two underlined responses was scored. Responses can be positive or negative in character. It follows when the scored response is a negative one that a low score is in the desired direction.

* Item was in more than one scale or index.

5. Preconception of Retirement (Cornell)

Do you have a pretty good idea of what your life will be like in retirement? (Yes, no)
In general, how do you think things will go in retirement? (Very well, fairly well, not very well, not well at all)

6. Anticipated Adjustment to Retirement of Workers (Cornell)

How long do you think it will take you to get used to not working? (Scored response: 1 to 3 months)
After retirement how often do you think there will be times when you won't know what to do to keep occupied? (Often, sometimes, hardly ever)

7. Anticipated Dissatisfaction with Retirement (Cornell)

How often will you miss the feeling of doing a good job? (Often, sometimes, hardly ever or never)
How often will you want to go back to work? (Often, sometimes, hardly ever or never)
How often will you worry about not having a job to do? (Often, sometimes, hardly ever or never)
How often will you miss being with the other people at work? (Often, sometimes, hardly ever or never)

8. Self Appraisal of Health (Cornell)

How would you rate your health at the present time? (Very poor, poor, fair, good, excellent)
Has your health changed during the past year? (No, yes, for better, yes, for worse)
Do you have any particular physical or health problems at present? (Yes, no)
Have you been seen by a doctor during the past year? (Yes, no)

9. Worry About Health

How often do you worry about your health? Would you say often, sometimes, hardly ever, or never?

10. Attitude Toward Present Income (Cornell)

Do you consider your present income enough to meet your living expenses? (Yes, no, don't know)
How often do you worry about money matters? Would you say often, sometimes, hardly ever, never?
Is your standard of living better today, that is, are you living better today--or is it worse than during most of your lifetime? (Better, worse, same, don't know)

11. Attitude Toward Retirement Income

How do you expect your retirement income to work out for you? (Will have enough to do everything you want and plan to do after you retire, will be able to meet living expenses, will barely break even, will run a little in the red every month, will run seriously in the red every month)

12. Attitude Toward Job (Cornell)

How much do you enjoy doing your present job? (Very much, fairly much, not so much, not at all)
How good a place would you say your department is to work in? (Very good, fairly good, not very good, not good at all)
Would you like to change to some other job or department in the company if given a chance? (Yes, no, undecided)
How well do you get along with your immediate supervisor or foreman? (Very well, fairly well, poorly, very poorly)
How well do you get along with the other people you work with? (Very well, fairly well, poorly, very poorly)
How often do you worry about being able to do your job? (Often, sometimes, hardly ever)

13. Retirement Planning Propensity

How long before retirement do you feel that people should start thinking about retirement? (Scored +1 for one or more years before retirement)
Have you started making any plans for your own retirement yet? (Yes, no)
How much do you plan ahead the things that you will be doing next week or the week after? Would you say you make many plans, a few plans, or almost none?

14. Plans for Retirement (Cornell)

Have you made plans for anything you would like to do after you stop working? (Yes, no)

15. Preparation for Retirement Index A

What are you doing to get ready for retirement? Check as many things as you are doing. (Each item checked was scored +1)

* ____Developing interests and activities to follow in retirement years.
____Reading books and pamphlets about retirement.
____Talking with others already retired.
____Talking with others preparing to retire.
____Attending classes and lectures in preparation for retirement.
* ____Making plans with my spouse.
____Talking with my banker or broker.
____Consulting my insurance agent.
____Checking with my doctor.
____Making exploratory trips or a trip to another location.
____Enrolling in adult education classes.
____Planning trips to take.

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* Item was used in more than one scale or index.

16. Preparation for Retirement Index B

Here are some things people do to get ready for retirement. Check as many as you have done or are doing. (Each item checked "yes" was scored +1)

____I've found out how much money I'll have to live on after retirement.
____I get a physical examination at least once a year.
____I've made plans for what I want to do with my time after retirement.
* ____I've talked over my plans for retirement with my spouse (or with a close friend).
____I've made a will.
____I've figured out how much it will cost me to live after I retire.
____I take some exercise every day such as a brisk walk or working in my garden or around the place.
____I have an interesting hobby and spend some time on it every week.
____I do some activities with my spouse (or with a close friend) at least once a week.
____I've reviewed my insurance policies to see whether or not they meet my present needs.
____I've found out what my living expenses are at the present time.
____I make a real effort to eat a well balanced diet each day.
* ____I have made plans for things to do in retirement which will make me feel useful.
____I've made some new friends during the past year.
____I've made arrangements to have some health insurance after I retire.
____I've worked out ways to cut some expenses after I retire.
____I've checked my house and have corrected things which might cause me to have an accident.
____I am active in at least two organizations such as union, church, lodge or club.
____I keep in touch with my family either by visiting with them or writing them letters.
____I've talked with the Social Security people and have found out things I wanted to know about my social security.

17. Readiness for Retirement

How well prepared are you for retirement? (Very well prepared, fairly well prepared, not very well prepared, not prepared at all)

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* Items used in more than one scale or index.